



3 2044 107 275 380

QK
306
.W58
1776x
v.2



HARVARD UNIVERSITY

LIBRARY

OF THE

GRAY HERBARIUM

Received

Jan. 1, 1906.

A
Botanical Arrangement
OF ALL THE
V E G E T A B L E S

Naturally growing in GREAT-BRITAIN.

V O L II.

11.2
11.1
11.0

E.S. 1779

A
Botanical Arrangement
OF ALL THE
VEGETABLES

Naturally growing in GREAT BRITAIN.

WITH DESCRIPTIONS OF THE
GENERA and SPECIES,

According to the System of the celebrated LINNÆUS.

Being an Attempt to render them familiar to those who
are unacquainted with the LEARNED LANGUAGES.

Under each SPECIES are added,

The most remarkable VARIETIES, the Natural PLACES of
GROWTH, the DURATION, the TIME of FLOWERING, the
PECULIARITIES of STRUCTURE, the common *English* NAMES;
the NAMES of Gerard, Parkinson, Ray and Baubine.

The USES as MEDICINES, or as POISONS;
as FOOD for Men, for Brutes, and for Insects.

With their Applications in OECONOMY and in the ARTS.

WITH AN EASY

INTRODUCTION TO THE STUDY OF BOTANY.

SHEWING

The Method of investigating PLANTS, and Directions how
to Dry and Preserve SPECIMENS.

The whole Illustrated by COPPER PLATES and a copious GLOSSARY.

By WILLIAM WITHERING, M. D.

Ornari res ipsa negat, contenta doceri.

IN TWO VOLUMES.

BIRMINGHAM: Printed by M. SWINNEY,

For T. CADEL and P. ELMSLEY in the Strand, and
G. ROBINSON, in Pater-noster-row. LONDON.

MDCCCLXXVI.

JAN 1 1906

Herbarium

C L A S S X V .

FOUR CHIVES LONGER.

IN the flowers of this Class there are six Chives ; *four* of them long, and *two* of them short.

The ORDERS are two, and are distinguished by the figure of the seed-vessel, which in the *first* Order is a *Pouch* ; that is, a roundish flat seed-vessel furnished with a *Shaft*, which is frequently as long as the seed-vessel itself. In the *second* Order, the seed-vessel is a *Pod* ; that is, a very long seed-vessel without any remarkable shaft.

The plants of this Class admit of the following NATURAL CHARACTER.

FOUR CHIVES LONGER.

NATURAL CHARACTER.

EMPAI. *Cup* oblong; of four leaves. *Leaves* oblong egg-shaped; concave; blunt; approaching: standing in opposite pairs; hunched at the base.

the *Honey cup* is formed within the empalement, and often occasions it to be hunched at the base.

BLOSS. Cross-shaped. *Petals* four; equal. *Claws* flattish awl-shaped; upright; generally longer than the *Cup*. *Border* flat. *Limbs* broadest towards the end; blunt; hardly touching one another at the edges. The petals are fixed in the same circle with the chives.

CHIVES. *Threads* six; awl shaped; upright; the two opposite ones as long as the cup: the other four somewhat longer, but shorter than the blossom. *Tips* rather oblong; taper; thickest at the base; upright, but with the top bent out-wards.

Honey-cups; glands, which differ in different genera. They grow near the chives, and are mostly fixed at the base of the shorter chives, which are generally bent outwards to prevent the compression of the glands, and therefore appear shorter than the others.

POINT. *Seedbud* superior; daily growing taller. *Shaft* the length of the longest chives; but in some genera there is no shaft. *Summit* blunt.

S. VESS. *Pod* with two valves; often with two cells; opening from the base to the point. *Partition* projecting beyond the points of the valves and occupying the place of the shaft.

SEEDS. Roundish; inclining downwards; lodged in the partition length-ways and alternately. *Receptacle* narrow, surrounding the partition, and lodged in the seams of the seed-vessel.

Obs. *This Class is truly natural, and hath been considered as such by all the best Systematic Writers; nevertheless they have thrown into it one or more Genera that do not naturally belong to it; but this we have avoided. It contains the Siliquose plants of Ray, and the Cross-shaped flowers of Tournefort.*

The plants of this Class are universally called Antiscorbutic; their taste is acrid and watery, they lose most of their virtues by drying. None of them are poisonous. In moist situations and wet seasons, they are most acrimonious. Thus the Horle-rad sh SCURVY-GRASS growing near water is so very acrid that it can hardly be used; and TURNIP CABBAGE, whose root in a dry sandy soil is so succulent and sweet, in wet stiff lands is hard and acrimonious.

C L A S S

C L A S S XV.

FOUR CHIVES LONGER.

Order I. Seed-vessel a Pouch.

* *Pouch entire, not notched at the end.*

- 262 WHITLOWGRASS. The *Pouch* with nearly flat valves.
Shaft none.
- 263 AWLWORT. - The *Pouch* with half egg-shaped
valves. Shaft shorter than the
Pouch.
- 264 CAMLINE. - The *Pouch* with concave valves.
Shaft permanent.
- 265 CRESSET. - The *Pouch* with valves only half the
length of the partition.

* * *Pouch notched at the end.*

- 166 ROCKWORT. - The two outermost petals the largest.
 167 SCURVYGRASS. The *Pouch* heart-shaped. *Valves*
 blunt; hunched.
 168 DITTANDER. - The *Pouch* heart-shaped; *Valves*
 sharply keel-shaped.
 169 MITHRIDATE. The *Pouch* inversely heart-shaped.
Valves in some species bordered;
 keel-shaped.

Order II. Seed-vessel a Pod.

* *Cup closed; its leaves approaching length-ways.*

- 270 CHARLOCK. - Pod jointed.
 271 WORMSEED. Pod four-edged.
 272 WALLFLOWER. Pod marked by a small gland on each side the seed-bud.
 273 DAMEWORT. - Glands situated within the shorter chives. *Petals* oblique.
 274 TURKEYPOD. - Glands four, within the leaves of the cup. *Summit* simple.
 275 CABBAGE. - Glands two within the shorter chives, and two on the outside the longer chives.
 276 TOWERFR. - *Petals* upright.
 277 CORALWORT. Pod with valves which roll back when open.

* * *Cup open; its leaves standing wide at the top.*

- 278 COLEWORT. - Pod deciduous; globular; like a dry berry. The four long *Chives* forked at the top.
 279 WOAD. - Pod deciduous; spear-shaped; containing one seed.
 280 ROCKET. - Pod deciduous; circular; covered with sharp points.
 281 LADYSMOCK. - Pod opening. *Valves* rolling back.
 282 MUSTARD. - Pod opening. *Cup* expanding horizontally.
 283 WATERCRESS. Pod opening. *Valves* nearly straight. *Cup* open.

† *Narrow* CABBAGE.

262 WHITLOW.

262 WHITLOWGRASS. 800 *Draba*.

EMFAL. *Cup*. with four leaves. *Leaves* egg-shaped; concave: open; somewhat upright; deciduous.

BLOSS. Four petals, forming a cross. *Petals* oblong; rather expanding. *Claws* very small.

CHIVES. *Threads* six; as long as the cup. The four opposite chives a little longer than the other two; upright but expanding. *Tips* simple.

POINT. *Seedbud* egg-shaped. *Shaft* very short. *Summit* a flat knob.

S.VESS. *Pouch* oblong oval; compressed; entire; without a shaft. Cells two; *Partition* parallel to the valves, *Valves* flat, but a little concave.

SEEDS. Many, small, roundish.

Obs. In the first species the petals are divided down to the claws. In the second and third species the petals are only notched at the end.

The essential character of this genus consists in the Pouch being an oblong oval; compressed; and without a shaft.

WHITLOWGRASS. The stalks naked; the leaves a little ferrated—*Blossoms* white. At night the flowers hang down. It is difficult to find six chives when the flower is fully opened, for they drop off when the Pouch begins to enlarge. Early Verna

Paronychia vulgaris. Gerard. 624. Ray's Syn. 292.

Paronychia vulgaris alpinæ folio. Park. 556.

Bursa pastoris minor, loculo oblongo. Bauh. pin. 108.

Common Whitlow-grass.

On old walls and dry banks. A. March—April.

This is one of the earliest flowering plants we have. It is good to eat as a salad.

Goats, Sheep and Horses eat it; Cows are not fond of it; Swine refuse it.

WHITLOWGRASS. The stem branched. The leaves heart-shaped; toothed; embracing the stem—*Fruit-stalks* horizontal. *Blossoms* white. *Seeds* yellow. Speedwell-leaved Muralis

Bursa pastoris major, loculo oblongo. Bauh. pin. 108. Ray's Syn. 292.

Thlaspi veronicæ folio. Park. 843.

Fissures of rocks and high pastures. A. May.

Linnaeus makes this a variety of the *Draba nemorosa* which differs in having yellow blossoms and egg-shaped leaves, but being sown in a garden the blossoms became white and the whole plant assumed the form of this.

Wreathen-
podded
Incana

Creeping

WHITLOWGRASS. The stem leaves numerous; covered with a whitish down. Pouches oblong, oblique, almost fitting—*Flowers in a small terminating bunch; white.*

Lunaria contorta major. Ray's Syn. 291.

1. Stem creeping.

Paronychia similis sed major, perennis alpina repens. Ray's Syn. 292.

Fissures of rocks and high moist places. B. May.

Goats eat it; Cows are not fond of it.

263 A W L W O R T. 799 Subularia.

EMPAL. *Cup* four leaves. *Leaves* egg-shaped; concave, a little expanding, deciduous.

BLOSS. Petals four; forming a cross. *Petals* inversely egg-shaped; entire; rather larger than the cup.

CHIVES. *Threads* six, shorter than the blossom. Two of the threads standing opposite still shorter. *Tips* simple.

POINT. *Seedbud* egg-shaped. *Shaft* very short. *Summit* blunt.

S.VESS. *Pouch* inversely egg-shaped; somewhat compressed; entire; furnished with a very short shaft. *Cells* two; *Partition* placed in a contrary direction to the valves, which are egg-shaped and concave.

SEEDS. Several; very minute; roundish.

Water
Aquatica

AWLWORT. As there is only one species known. *Linnaeus* gives no description of it—*Leaves semi-cylindrical; full of pith. Blossoms white. Seeds yellow.*

Subularia erecta, Junci foliis acutis mollibus. Ray's Syn. 307.

At the bottom of large lakes. A.

SEED VESSEL A POUCH.

391

264 CAMLINE. 796 Myagrum.

EMPAL. *Cup* four leaves. *Leaves* oblong egg-shaped; concave; opening; coloured; deciduous.

BLOSS. Four petals forming a cross. *Petals* flat; circular; blunt. *Claws* slender.

CHIVES. *Threads* six; as long as the cup. The four opposite threads rather longer than the other two. *Tips* simple.

POINT. *Seedbud* egg-shaped. *Shaft* thread-shaped; as long as the cup. *Summit* blunt.

S.VESS. *Pouch* inversely egg-shaped, somewhat compressed; entire; rigid; terminated at the point by a rigid conical shaft. *Valves* two; some of the cells often empty.

SEEDS. Roundish.

CAMLIN. The pouches on fruit-stalks; inversely egg-shaped. Golden ed; containing many seeds—*Blossoms* pale yellow or white. Seeds *Sativum* yellow.

Myagrum. Gerard. 273. Ray's Syn. 302. sativum. Bauh. pin.
109

Myagrum sylvestre, seu pseudo-myagrum. Park. 868.

Gold of pleasure.

In fields amongst flax. A. June.

It is cultivated in Germany for the sake of the expressed oil of the seeds, which the inhabitants use for Medicinal, culinary and Oeconomical purposes. The seeds are a favourite food with Geese.—Horses, Cows, Goats and Sheep eat it.

265 CRESS ET. 797 Vella.

EMPAL. *Cup* four leaves; upright; cylindrical. *Leaves* strap-shaped; blunt; deciduous.

BLOSS. Four petals; forming a cross. *Petals* inversely egg-shaped; expanding. *Claws* as long as the cup.

CHIVES. *Threads* six; as long as the cup. The four opposite threads a little longer than the other two. *Tips* simple.

POINT. *Seedbud* egg-shaped. *Shaft* conical. *Summit* simple.

S.VESS. *Pouch* globular; entire; cells two. *Partition* egg-shaped, upright; twice as large as the pouch and extending beyond it.

SEEDS. Several; roundish.

B 4

CRESSET.

FOUR CHIVES LONGER.

CRESSET. The leaves with winged clefts. The pouches pendant—*Blossoms pale yellow.*

Nasturtium sylvestre crucæ affine. *Baub. pin.* 105. *Ray's Syn.* 304.

Nasturtium sylvestre valentinum Clusio. *Park.* 830.

Eruca nasturtio cognata tenuifolia. *Gerard.* 247.

Cresse Rocket.

On Salisbury plain near Stone-henge. A. June.

266 ROCKWORT. 804 Iberis.

EMPAL. *Cup* four leaves. *Leaves* inversely egg-shaped; concave; expanding; small; equal; deciduous.

BLOSS. Four unequal petals; inversely egg-shaped: blunt; expanding. *Claws* oblong; upright. The two *outer Petals* very large; equal. The two *inner Petals* small; reflected.

CHIVES. *Threads* six; awl-shaped; upright. Two lateral threads shortest. *Tips* roundish.

POINT. *Seedbud*: roundish; compressed. *Shaft* simple; short. *Summit* blunt.

S.VESS. *Pouch* upright; nearly circular; compressed; notched at the end; encompassed by a sharp border. *Cells* two. *Partition* spear-shaped. *Valves* boat-shaped; keeled; compressed.

SEEDS. Several; somewhat egg-shaped.

Naked
Nudicaulis

ROCKWORT. The stem naked; simple; herbaceous. The leaves indented—*Blossoms white; terminating.*

Nasturtium petræum. *Gerard.* 251. *Ray's Syn.* 303.

Nasturtium petræum, foliis burfæ pastoris. *Baub. pin.* 104.

Burfæ pastoris minor foliis incis. *Baub. pin.* 108.

Burfæ pastoris minor. *Park.* 866.

Rock Cresse.

Gravelly foil. A. May.

SEED VESSEL A POUCH.

393

267 SCURVYGRASS. 803 Cochlearia.

IMPAL. *Cup* four leaves. *Leaves* egg-shaped; concave; opening; deciduous.

BLOSS. Four petals, forming a cross. *Petals* inversely egg-shaped; expanding; twice as large as the cup. *Claws* narrow; shorter than the cup; open.

CHIVES. *Threads* six; awl-shaped; as long as the cup. The two opposite chives shorter than the others. *Tips* blunt; compressed.

POINT. *Seedbud* heart-shaped. *Shaft* simple; very short; permanent. *Summit* blunt.

S. VESS. *Pouch* heart-shaped; hunched; a little compressed; slightly notched at the end; furnished with a shaft; rough; blunt at the edge. *Cells* two.

SEEDS. About four in each cell.

SCURVYGRASS. The root-leaves circular; stem-leaves Garden oblong; and a little indented—*Blossoms* white; terminating. Officialis

Cochlearia. *Ray's Syn.* 302. *rotundifolia*. *Gerard.* 401.

Cochlearia *rotundifolia*, seu *batavorum*. *Park.* 285.

Cochlearia *folio subrotundo*. *Bauh. pin.* 110.

1. There is a variety with smaller leaves. *Park.* 286.

Common Scurvy-grass. Scrooby Grass. Dutch Scurvy-grass.

Sea-coast, and on mountains. B. April—May.

Notwithstanding this is a native of the sea-coast, it is cultivated in gardens without any sensible alteration of its properties. It possesses a considerable degree of acrimony, and this acrimony seems to reside in a very subtil essential oil. Its effects as an antiscorbutic are universally known; and it is a powerful remedy in the pituitous asthma, and in what Sydenham calls the scorbutic rheumatism. A distilled water and a conserve are prepared from the leaves, and its juice is prescribed along with that of oranges by the name of antiscorbutic juices. It may be eaten as a salad.—Cows eat it; Horses, Goats and Sheep refuse it.

SCURVYGRASS. The leaves halberd-shaped, and angular Danish *Blossoms* white. Danica

Cochlearia *marina folio anguloso parvo*. *Ray's Syn.* 303.

In the island of Walney in Lancashire. B. May.

The following varieties are the product of cultivation:

1. Small and upright.

2. Stems creeping.

3. Blossoms tinged with red.

Cows eat it; Horses, Goats and sheep refuse it.

SCURVY-

English
Anglica

SCURVYGRASS. The leaves betwixt egg and spear-shaped; indented—*Blossoms white*.

Cochlearia folio sinuato. *Bauh. pin.* 110. *Ray's Syn.* 303.

Cochlearia vulgaris. *Park.* 28;.

Cochlearia Britannica. *Gerard.* 401.

Common Sea Scurvygrafs.

Sea coast. B. May.

Greenland
Groenlandica

SCURVYGRASS, with kidney-shaped, entire, fleshy leaves—*Root leaves very small; fleshy; very convex on the under surface; without veins; very entire; on long leaf-stalks. Blossoms white.*

Cochlearia rotundifolia. *Ray's Syn.* 302.

Mountains in Wales. B. April—May.

All the above species partake more or less of the properties of the garden SCURVYGRASS.

Swines
Coronopus

SCURVYGRASS. The leaves with winged clefts. Stem depressed—*Blossoms white; at the base of the leaves.*

Coronopus ruellii. *Gerard.* 427.

Coronopus recta, vel *repens ruellii*. *Park.* 502.

Nasturtium fupinum capsulis verrucosis. *Ray's Syn.* 304.

Ambrosia campestris repens. *Bauh. pin.* 138.

Swines cresses.

High roads. A. June—August.

This plant is acrid, with something of the flavour of *Nasturtium*.

Horse-radish
Armoracia

SCURVYGRASS. The root leaves spear-shaped and scoloped. The stem leaves jagged—*Blossoms white; terminating.*

Raphanus rusticus. *Gerard.* 241. *Park.* 860. *Ray's Syn.* 301. *Bauh. pin.* 98.

In ditches and amongst rubbish. P. May.

The scraped root is in common use at our tables as a condiment for fish, roasted beef, &c, and it is used for many other culinary purposes. An infusion of it in cold milk, makes one of the safest and best cosmetics. In paralytic and dropical cases it is an useful stimulant and diuretic. A strong infusion of it excites vomiting. A distilled water is prepared from it.—Horses, Cows, Goats, Sheep and Swine refuse it.

The several species of SCURVYGRASS nourish the great white cabbage Butter-fly, *Papilio Brassicae*.

268 DITTANDER. 801 *Lepidium*.

EMPAL. Cup four leaves. Leaves egg-shaped; concave; deciduous.

BLOSS. Four petals, forming a cross. Petals inversely egg-shaped; twice as long as the cup. Claws narrow.

CHIVES. Threads six; awl-shaped; as long as the cup. The two opposite threads shorter than the others. Tips simple.

POINT. Seedbud egg-shaped. Shaft simple; as long as the chives. Summit blunt.

S. VESS. Pouch somewhat heart-shaped; slightly notched at the end; compressed; sharp at the edge. Cells two. Partition spear-shaped. Valves boat-shaped; keeled.

SEEDS. Several; egg-shaped; tapering; narrow at the base; inclining downwards.

Obs. The third species hath only two chives, and no petals.

DITTANDER. The leaves winged; very entire. Petals Mountain imperfect at the margin; smaller than the cup—*Blossoms white*. Petraeum Cup whitish, tip with yellow.

Nasturtium montanum annuum tenuissime divisum. Ray's

Syn. 304.

Nasturtium pumilum vernum. Bauh. pin. 105.

On St. Vincents rock. A. April—May.

DITTANDER. The leaves betwixt egg and spear-shaped; Pepper entire; serrated—*Blossoms white; numerous; terminating.* Latifolium

Lepidium latifolium. Bauh. pin. 97. *Ray's Syn.* 304.

Piperitis, seu lepidium vulgare. Park. 855.

Raphanus sylvestris officinarum. Gerard. 241.

Pepperwort. Dittander. Poor-mans-pepper.

Moist pastures. P. June—July.

This is one of the acrid antiscorbutics and was formerly used in the place of *Horseradish* SCURVYGRASS.

DITTANDER, with only two chives in each flower, and Narrow-leav'd no petals. Root leaves toothed and winged: Stem leaves strap-shaped, very entire—

Nasturtium sylvestre, ofyridis folio. Bauh. pin. 105. *Park.* 820. *Ray's Syn.* 303.

Thlaspi minus. Gerard. 263.

Narrow-leaved wild Cress.

Sea-coast. A. June,

269 MITHRIDATE. 802 Thlaspi.

EMAL. *Cup* four leaves. *Leaves* egg-shaped; concave; nearly upright; deciduous.

BLOSS. Four petals, forming a cross. *Petals* inversely egg-shaped; twice as long as the cup. *Claws* narrow.

CHIVES. *Threads* six; half as long as the blossom. The two opposite threads shorter than the others. *Tips* tapering to a point.

POINT. *Seedbud* circular; compressed; notched at the end. *Shaft* simple; as long as the chives. *Summit* blunt.

S.VESS. *Pouch* compressed; inversely heart-shaped; notched at the end; the depth of the notch being equal to the length of the shaft. *Cells* two. *Partition* spear-shaped. *Valves* boat-shaped.

SEEDS. Many; inclining; fixed to the seams.

Obs. *In some species the pouch is encompassed by a sharp border; in others not.*

Mustard
Arvense

MITHRIDATE. The pouches round and flat. *Leaves* oblong; toothed; smooth—*Blossoms* white.

Thlaspi arvense filiquis latis. *Baub. pin.* 107.

Thlaspi dioicoidis. *Gerard.* 202. *Ray's Syn.* 305.

Thlaspi drabæ folio. *Park.* 826.

Treacle Mustard. Penny-cress.

Corn-fields. A. June—July.

The whole plant hath something of a garlic flavour. The seeds have the acrimony of mustard. When Cows eat it their milk gets a bad taste.—Cows, Goats and Swine eat it; Sheep and Horses refuse it.

Perennial
Hirtum

MITHRIDATE. Pouches circular; hairy. Stem leaves arrow-shaped; hairy.—*Root leaves* oval; a little fringed. Stem downy. *Cups* white. *Petals* white; inversely egg-shaped; entire.

Thlaspi vaccariæ incano folio perenne. *Ray's Syn.* 305.

Thlaspi villosum, capsulis hirsutis. *Baub. pin.* 106.

Perennial mithridate Mustard.

MITH-

MITHRIDATE. Pouches circular; leaves arrow-shaped; Cress toothed; covered with a whitish down—*Root leaves lyre-shaped* Campestre and *indented*. Blossoms white. Cups with brown spots.

Thlaspi vulgatus. Ray's Syn. 305.

Thlaspi arvense vaccariæ folio majus. Bauh pin. 106.

Thlaspi vulgatissimum. Gerard. 262.

Thlaspi mithridaticum seu vulgatissimum, vaccariæ folio. Park.

835.

Mithridate Mustard. Bastard Cress.

Sandy corn-fields. A. June—July.

Goats and Swine eat it; Sheep and Horses refuse it; Cows are not fond of it.

MITHRIDATE. Pouches inversely heart-shaped; leaves Mountain smooth. Root leaves inversely egg-shaped; fleshy; very entire. Montanum Stem leaves embracing the stem. Blossoms larger than the cups — *nearly equal*; white.

Thlaspi foliis globulariæ. Ray's Syn. 305.

Thlaspi montanum, glatti folio minus. Park. 842 Bauh. pin. 106.

Thlaspi alpinum, bellidis cæruleæ folio. Bauh. pin. 106.

Thlaspeos albi supini varietas. Gerard. 268.

Mountain mithridate Mustard.

High pastures. P. July.

MITHRIDATE. Pouches inversely heart-shaped; stem leaves heart-shaped; smooth; a little toothed. Petals as long as the cup. Stem branched—*Blossoms white; but little larger than the cups.* Chives longer than the blossom; white. Tips yellowish.

Thlaspi perfoliatum minus. Bauh. pin. 106. Park. 837. Ray's Syn. 305.

Thlaspi minus Clusii. Gerard. 268.

Perfoliate Treacle-Mustard.

On Limestone rocks. A. June.

MITHRIDATE. Pouches inversely heart-shaped; root Purse leaves with winged clefts—*Blossoms white.* In the younger plants *Bursa pastoris* it is not unusual to find the leaves undivided, and the empalement hairy.

Bursa pastoris. Gerard. 276. Ray's Syn. 306.

Bursa pastoris major vulgaris. Park. 806.

Bursa pastoris major, folio sinuato. Bauh. pin 103.

Shepherds Purse. Shepherds Pouch.

Among rubbish. Road sides. Walls. Cornfields. A. March — June.

This

FOUR CHIVES LONGER.

This plant is a strong instance of the influence of soil and situation, for it grows almost every where, and sometimes is not more than two inches high when it flowers and perfects its seeds; whilst in other situations it attains the height of two or three feet.—Horses, Cows, Goats, Sheep and Swine eat it.

The orange tip Butterfly, *Papilio Cardamines*; and the great yellow Underwing Moth, *Phalena Pronuba*, feed upon the different species.

Order II. Seed-vessel a Pod.

270 CHARLOCK. 822 Raphanus.

EMFAL. *Cup* four leaves; upright. *Leaves* oblong; parallel; approaching; deciduous; hunched at the base.

BLOSS. Four petals, forming a cross. *Petals* inversely heart-shaped; expanding. *Claws* a little longer than the cup.

Honey-cup Glands four; one betwixt each shorter chive and the pointal, and one betwixt the longer chives and the cup, on each side.

CHIVES *Threads* six; awl-shaped; upright. Two as long as the cup; the other four as long as the claws of the blossom. *Tips* oblong; upright; arrow-shaped.

POINT. *Seedbud* oblong; distended; tapering; as long as the chives. *Shaft* hardly preceptible. *Summit* a knob; entire.

S. VESS. Hunched; oblong; ending in a point; smooth; distended with several protuberances so as to appear almost jointed.

SEEDS. Roundish; smooth.

CHAR-

CHARLOCK. Pods with one cell: cylindrical; jointed; Corn smooth—*Leaves lyre-shaped. Upper leaves oblong—Spear-shaped; Raphanistrum scolloped and a little serrated; full of veins; thin and flat. Stem rough; beset with pellucid bristles. Cups covered with white woolly hairs, except at the base, which is smooth. Blossoms yellow; sometimes white and streaked with livid lines.*

Raphanus sylvestris. Gerard. 240.

Raphanistrum filiqua articulata glabra, majore et minore. Ray's Syn. 296.

Rapistrum album articulatum. Park. 863.

Rapistrum flore albo, filiqua articulata. Bauh. pin. 95.

Rapistrum flore luteo, filiqua glabra articulata. Ray's Syn. 296.

White or yellow flowered Charlock.

Corn-fields. A. June—July.

In wet seasons it grows in great quantity amongst the Barley, in Sweden, and the common people who eat barley bread, are afflicted with very violent convulsive complaints in those provinces and in those seasons wherein this plant abounds. *Rothman de Raphania. Amoen. Acad. vol. 6. p. 430.*

Horses eat it; Cows refuse it.

271 WORMSEED. 814 Erysimum.

EMPAL. Cup four leaves. *Leaves oblong egg-shaped; parallel but approaching at the top; coloured; deciduous.*

BLOSS. four petals, forming a cross. *Petals oblong; flat; very blunt. Claws as long as the cup; upright.*

Honey-cup Glands double; on the inner side of the shorter chives.

CHIVES. *Threads six; as long as the cup. The two opposite threads shorter than the others. Tips simple.*

POINT. *Seedbud strap-shaped; four edged; as long as the chives. Shaft very short. Summit a small knob; permanent.*

S. VESS. *Pod long; narrow; stiff and straight; with four edges, two valves and two cells.*

SEEDS. Many; small; roundish.

WORM.

Mustard
Officinale

WORMSEED. Pods contiguous to the spike; leaves notched—*Blossoms yellow, in long spikes; terminating.*

Erysimum vulgare. Baub. pin. 298.

Erysimum diolcoridis lobelio. Gerard. 254.

Iris five erysimum vulgare. Park. 833.

Eruca hirsuta, siliqua caule appressa, erysimum dicta. Ray's Syn. 298.

Hedge Mustard. Bank Cresses.

Under walls, in roads and among rubbish. A. May.

It is warm and acrid to the taste, and when cultivated is used as a vernal pot-herb—Birds are fond of the seeds.—Sheep and Goats eat it; Cows, Horses and Swine refuse it.

Rocket
Barbarea

WORMSEED. The leaves lyre-shaped, with a circular segment at the end—*Blossoms yellow; terminating.*

Eruca lutea, five barbarea. Baub. pin. 98. Ray's Syn. 297.

Barbarea. Gerard. 243. flore simplici. Park. 819.

1. There is a variety in which the leaves are smaller and more indented. Ray's Hist. 809. Another with double blossoms and a third with rough leaves.

Winter Cresses. Winter Rockett.

Wet ditches. P. May.

The common people in Sweden use the leaves in sallads, early in the spring and late in the autumn: they also boil them as Cale.

—Cows eat it; Horses and Swine refuse it; Goats and Sheep are not fond of it.

Garlic
Alliaria

WORMSEED. The leaves heart-shaped—*Blossoms white; terminating.*

Hesperis allium redolens. Ray's Syn. 293.

Alliaria. Gerard. 796. Park. 112. Baub. pin. 110.

Jack by the hedge or sauce alone.

Ditch-banks. P. May.

The Prussians eat the leaves along with salted meats in the Spring. They are useful with Lettuce and the colder sallads—the seeds excite sneezing.—Cows and Goats eat it; Horses Sheep and Swine refuse it.

The Garlic Weevil, *Curculio Alliaria*, feeds upon it.

Treacle
Cheiranthoides

WORMSEED. The leaves spear-shaped, very entire. The pods not pressed close to the stem.—*Blossoms white; terminating.*

Myagro affinis planta siliquis longis. Ray's Syn. 29.

Myagrum siliqua longa. Baub. pin. 109.

Camelina. Gerard. 273. seu *myagrum alterum amarum.* Park. 867.

Corn-fields. A. July.

The country people give the seeds to destroy worms, and with good effect.—Horses, Cows, Goats, Sheep and Swine eat it.

272 WALLFLOWER. 815 Cheiranthus.

EMPAL. *Cup* four leaves ; compressed. *Leaves* spear-shaped ; concave ; upright ; parallel but approaching towards the top ; deciduous. The two *outer* leaves hunched at the base.

BLOSS. Four petals, forming a cross. *Petals* circular ; longer than the cup, *Claws* as long as the cup.

CHIVES. *Threads* six ; awl-shaped ; parallel ; as long as the cup. Two of them shorter than the others and hunched at the base. *Tips* upright ; cloven at the base ; sharp and reflected at the top.

The *Honey-cup Gland* surrounds the base of each of the short chives.

POINT. *Seedbud* prism-shaped ; with four edges ; as long as the chives : with a small tubercle on each side the base. *Shaft* very short ; compressed. *Summit* oblong ; cloven ; reflected ; thick ; permanent.

S. VESS. *Pod* long ; compressed ; two opposite angles obliterated ; marked with a little tooth. Cells two ; valves two ; shaft very short ; summit cloven ; upright.

SEEDS. Many ; pendant ; alternate ; somewhat egg-shaped ; compressed ; with a membranaceous border.

Obs. *A little tooth on each side the seedbud is evident enough in some species, but not so in all. In the second species the pod hath three points at the end.*

Yellow
Cheiri

WALLFLOWER. The leaves spear-shaped; sharp; smooth; branches angular. Stem somewhat woody—*Blossoms yellow; in terminating spikes.*

Leucojum luteum, vulgo cheiri flore simplici. *Ray's Syn.* 291.

Leucojum luteum vulgare. *Baub. pin.* 202.

Keiri, five leucojum vulgare luteum. *Park.* 625.

Viola lutea. *Gerard.* 450.

Bloody

1. There is a variety in which the blossoms are stained with a deep reddish purple.

On walls, roofs, and ruins. P. May—June.

Cultivation supplies us with the following varieties.

1. Double yellow.
2. Large yellow.
3. Large double yellow.
4. Double bloody Wallflower.
5. Purple and gold ditto.
6. Yellow striped leaved double yellow.
7. White striped leaved ditto.
8. White blossomed.
9. Double white ditto.
10. Straw coloured blossoms.
11. Double ditto.

The different varieties are very commonly found in our flower-gardens, but none have a more delightful smell than the wild ones.

Marine
Tricuspidatus

WALLFLOWER. The leaves lyre-shaped. Pods with three teeth at the end—*Blossoms white; terminating.*

Leucojum marinum majus. *Park.* 622. *Ray's Syn.* 291.

Leucojum maritimum sinuato folio. *Baub. pin.* 201.

Sea Stock Gillyflower.

On the Sea coast. P. June.

The angle shaded Moth, *Phalena Meticulosa*, and the great yellow underwing Moth, *Phalena Pronuba* feed upon both species.

273 DAMEWORT. 817 Hesperis.

EMPAL. *Cup* four leaves. *Leaves* betwixt strap and spear-shaped; parallel, but approaching towards the top, and open at the base: deciduous. The two opposite leaves hunched at the base.

BLOSS. Four petals, forming a cross. *Petals* oblong; the length of the cup; a little bent obliquely to the left; ending in taper *Claws* which are as long as the cup.

CHIVES. *Threads* six; awl-shaped; as long as the tube. Two of the threads, only half as long. *Tips* narrow; upright; reflected at the top.

Honey-cup Glands tapering; placed betwixt the shorter chives and the seedbud; surrounding the chive.

POINT. *Seedbud* as long as the cup; prism-shaped; with four edges. *Shaft* none. *Summit* divided; placed inwards; oblong; upright; forked at the base; approaching at the top; shrivelling.

S. VESS. *Pod* long; compressed and flat; scored. Cells two; valves two. *Valves* as long as the partition.

SEEDS. Many; egg-shaped; compressed.

DAMEWORT, with a simple upright stem. Leaves betwixt egg and spear-shaped; toothed. Petals with a sharp point; Matronalis imperfect at the margin.—*Blossoms purplish white.*

Hesperis sylvestris inodora. Ray's Syn. 293.

Hesperis pannonica inodora. Park. 628.

Unfavorable Dames Violer.

Banks of rivers. B. May.

The following varieties are the product of cultivation.

1. White blossomed.

2. Double purple.

3. Double white.

4. Double striped.

EMPAL. *Cup* four leaves; deciduous. *Leaves* parallel but approaching at the top; *two opposite* Leaves large; oblong egg-shaped; sharp; a little prominent at the base; hunched; concave. The *other two* strap-shaped and upright.

BLOSS. Four petals forming a cross. *Petals* egg-shaped; expanding; ending in *Claws* as long as the cup.

Honey-cups four; each composed of a little reflected permanent scale, fixed to the receptacle at the bottom, and on the inner side of the leaves of the cup.

CHIVES. *Threads* six; awl-shaped; upright. Two as long as the cup; four twice as long. *Tips* heart-shaped; upright.

POINT. *Seedbud* cylindrical; as long as the chives. *Shaft* none. *Summit* blunt; entire.

S. VESS. *Pod* compressed; very long; strap-shaped; the prominencies occasioned by the seeds unequal. *Values* almost as long as the partition.

SEEDS. Many; roundish; compressed.

OBS. *This genus is distinguished from the WALLFLOWER by the honey-cup and from the DAMEWORT by the summit.*

Mouse-ear
Thaliana

TURKEYPOD. The leaves on leaf stalks; spear-shaped and very entire—*Stem leaves* fitting. Blossoms white.

Turritis vulgaris ramosa. Ray's Syn. 294.

Bursæ pastoris similis filiquosa major et minor. Bauh. pin. 108.

Paronychia major et altera minor. Park. 556.

Leafy

I. There is a variety that is smaller and very full of leaves.

Coded Mouse-ear.

Walls, roofs, and dry pastures. A. May.

Sheep are not fond of it; Swine refuse it.

275 CABBAGE. 820 Brassica.

EMPAL. *Cup* four leaves. *Leaves* betwixt spear and strap-shaped; concave; channelled; hunched at the base; upright; parallel; deciduous.

BLOSS. Four petals, forming a cross. *Petals* somewhat egg-shaped; flat; expanding; entire; gradually tapering into *Claws*, which are nearly as long as the cup.

Honey-cup Glands four; egg-shaped. One placed betwixt each short chive, and the seedbud; and one betwixt each pair of the longer chives, and the cup.

CHIVES. *Threads* six; awl-shaped; upright. The two opposite ones as long as the cup, the other four longer. *Tips* upright; tapering to a point.

POINT. *Seedbud* cylindrical; as long as the chives. *Shaft* short; as thick as the seedbud. *Summit* a knob; entire.

3. VESS. *Pod* long; nearly cylindrical, but depressed on each side. *Partition* projecting at the end; cylindrical. *Cells* two, *Valves* two; shorter than the partition.

SEEDS. Many; globular.

Obs. In the second and third species the Cup is the same colour with the Blossom. In other species it is green. In the last species the Shaft is sword-shaped.

CABBAGE. The leaves heart-shaped, smooth, and em-perforated bracing the stem. Root-leaves rough, very entire. Pods with four edges—*Blossoms* white; in long spikes. Orientalis

Brassica campestris perfoliata, flore albo. *Bauh pin.* 112. *Ray's Syn.* 293.

Perfoliata filiquosa. *Gerard.* 536.

Perfoliata filiquosa vulgaris seu *Brassica campestris*. *Park.* 580.

On the sea-coast. A. June.

FOURCHIVES LONGER.

Rape
Napus

CABBAGE. The root a continuation of the stem; spindle-shaped—*Root leaves lyre-shaped; smooth. Stem-leaves oblong heart-shaped; embracing the stem; a little toothed. Cup expanding. Blossoms yellow.*

Napus sylvestris. Bauh. pin. 95. Ray's Syn. 295.

Bunias seu Napus sylvestris nostras. Park. 865.

Bunias sylvestris lobelii. Gerard. 235.

Wild Navew. Rape.

On Ditch Banks, and among corn. B. May.

The seeds furnish a large quantity of expressed oil called Rape Oil. The roots may be eaten like the Turnep, but they have a stronger taste.—Cows, Goats and Swine eat it.

Turnep
Rapa

CABBAGE. The root a continuation of the stem, round; depressed; fleshy. *Root-leaves rough, deeply indented. Blossoms yellow.*

Rapa fativa rotunda. Bauh. pin. 89. Ray's Syn. 294.

Rapum majus. Gerard. 232.

Knolles: Turneps.

Ditch-banks and corn-fields. B. April.

The roots are eaten either raw, boiled, or roasted. Pepper is commonly used with them. They relax the bowels and are supposed to sweeten the blood. They are hurtful to pregnant or hysterical women, and to those who are subject to flatulencies. The rind is acrimonious.—If the roots are kept in sand, or in a cellar during the winter, they send out white shoots and yellowish leaves, which being rather sweet and not unpleasant to the palate, are used as sallad, when other esculent plants are not to be had.—But the greatest use of Turneps is in feeding Oxen and Sheep in the winter.

Cultivated
Oleracea

CABBAGE. The root a continuation of the stem; cylindrical; fleshy.—*Blossoms yellow. Seeds dusky purple.*

Brassica maritima arborea, seu procerior ramosa. Ray's Syn. 293.

On cliffs on the sea-coast. B. April.

OBS. *The different varieties of cultivated garden Cabbage originate from this.*

Early

Early in the spring the Sea Cabbage is preferred before the cultivated kinds; but when gathered on the sea-coast, it must be boiled in two waters to take away the saltiness. When old, it occasions giddiness. The roots may be eaten like those of the preceding species, but they are not so tender.—The industry of the Gardener hath produced a great number of varieties, known by the names of *Early Cabbage*, *Winter Cabbage*, *Kale*, *Red Cabbage*, *White Cabbage*, *Borecole*, *Broccoli*, *Turnep-rooted Cabbage*, *Cauliflower*, &c. as may be seen in Millar's Gardener's Dictionary. They are all of them much in use at our tables. The Red Cabbage is chiefly used for pickling. In some countries they bury the White Cabbage when full grown in the autumn, and thus preserve it all winter. The Germans cut them to pieces and along with some aromatic herbs and salt, press them close down in a tub where they soon ferment, and are then eaten under the name of Sour Crout.—The Cabbage whilst young, is food for the *Chrysomela Saltatoria*, and afterwards for the *Papilio Brassica*. The former may be kept off by strewing the ground with Soot; and it is said the latter will not touch the plants if they are whipped with the green boughs of Elder. If Cabbages are sowed or planted for several years together in the same soil, the heads become smaller and the roots knotty. This is occasioned by the Larvæ of Flies.

CABBAGE. The leaves notched; and the stem covered Rocket with strong hairs. Pods smooth. Shaft sword-shaped—*Blossoms* Erucastrum yellow.

Eruca sylvestris. Gerard. 247. Ray's Syn. 296. vulgarior. Park. 818.

Eruca major lutea, caule aspero. Bauh pin. 98.

Wild Rocket.

On old walls and among rubbish. P. May.

All the parts of this plant are considerably acrid, and have a rank disagreeable smell.

The different species of Cabbage afford nourishment to the following insects.

Great White Cabbage Butterfly, *Papilio Brassica*.

Small White ditto. *Papilio Rapæ*.

White Butterfly with green veins. *Papilio Napi*.

Spotted red and white Under-wing Moth. *Phalæna Fuliginosa*.

Cabbage Louse. *Aphis Brassica*.

- - - *Chrysomela Hyoscyami*.

FOUR CHIVES LONGER.

276 TOWERER. 819 Turritis.

EMPAL. *Cup* four leaves. *Leaves* oblong egg-shaped ; parallel, but approaching towards the top ; deciduous.

BLOSS. Four petals, forming a cross. *Petals* oblong egg-shaped ; blunt ; upright ; entire. *Claws* upright.

CHIVES. *Threads* six ; awl-shaped ; upright ; as long as the tube. Two of them shorter than the others. *Tips* simple.

POINT. *Seedbud* as long as the blossom ; cylindrical ; a little compressed. *Shaft* none. *Summit* blunt.

S. VESS. *Pod* exceedingly long ; stiff and straight ; with four edges, but two of the edges which are opposite almost obliterated ; somewhat compressed. *Cells* two. *Valves* two. *Valves* rather shorter than the partition.

SEEDS. Very numerous ; roundish ; notched.

Great
Glabra

TOWERER. The root-leaves toothed and covered with strong hairs. Stem leaves very entire ; smooth ; embracing the stem—*Blossoms* greenish white ; in a long terminating spike.

Brassica sylvestris, foliis integris et hispidis. *Bauh. pin.* 109.

Turritis. *Gerard.* 272. *Ray's Syn.* 293. vulgarior. *Park.* 852.

Great Tower Mustard.

Gravelly soil, in pits and waste places. A. May.

The seeds reduced to powder are given in Sweden for pleuritic complaints.—Cows, Goats and Sheep eat it ; Horses and Swine refuse it.

Hairy
Hirsuta

TOWERER. The leaves all covered with strong hairs. Stem leaves embracing the stem—*Blossoms* white ; in a terminating spike.

Turritis muralis minor. *Ray's Syn.* 294.

Erysimo similis hirsuta, non laciniata, alba. *Bauh. pin.* 101.

Erysimo similis hirsuta planta. *Park.* 834.

Hairy Tower Mustard. Wall Cress.

On rocks and old walls. B. June.

Cows refuse it.

277 CORALWORT. 811 Dentaria.

EMPAL. *Cup* four leaves. *Leaves* oblong egg-shaped; parallel but approaching towards the top; blunt; deciduous.

BLOSS. Four petals, forming a cross. *Petals* circular; blunt; slightly notched at the end; flat; ending in *Claws* as long as the cup.

CHIVES. *Threads* six; awl-shaped; as long as the cup. Two of them shorter. *Tips* oblong heart-shaped; upright.

POINT. *Seedbud* oblong; the length of the chives. *Shaft* very short and thick. *Summit* blunt; notched at the end.

S. VESS. *Pod* long; cylindrical; *Cells* two; *Valves* two; *Partition* rather longer than the valves.

SEEDS. Many; somewhat egg-shaped.

CORALWORT. The lower leaves winged; upper leaves Bulbous simple.—*Bulbs* are formed at the base of the leaves. *Blossoms* Bulbifera white, or reddish. *Bulbs* black.

Dentaria bulbifera. Gerard. 984.

Dentaria heptaphyllos baccifera. Baub. pin. 322.

In shady places. P. April.

Swine refuse it.

It nourisheth the *Chrysomela Nemorum*.

278 COLEWORT. 825 Crambe.

EMPAL. *Cup* four leaves. *Leaves* egg-shaped; channelled; rather expanding; deciduous.

BLOSS. Four petals; forming a cross. *Petals* large; blunt; broad; expanding. *Claws* upright, but standing open; as long as the cup.

CHIVES. *Threads* six; two of them as long as the cup: the other four longer than the cup, and cloven at the end. *Tips* simple; fixed to the outermost division of the threads.

Honey-cup Glands placed on each side, betwixt the blossom and the longer chives.

POINT. *Seedbud* oblong. *Shaft* none. *Summit* rather thick.

S. VESS. *Berry* dry; roundish; of one cell; deciduous.

SEED. Single; roundish.

OBS. *The essential character of this genus consists in the threads being cloven at the top.*

Sea
Maritima

COLEWORT. The leaves and stem smooth—*Blossoms* white.

Crambe maritima Brassicæ folio. *Ray's Syn.* 307.

Brassica maritima monospermos. *Baub. pin.* 112.

Brassica marina monospermos. *Park.* 270.

Brassica marina anglica. *Gerard.* 315.

1. There is one variety with jagged leaves and another with yellowish blossoms.

On sandy sea-shores. P. May.

The young and tender leaves are boiled as Cabbage, but when full grown they occasion giddiness.—Horses, Cows, Goats, Sheep and Swine eat it.

279 WOAD.

279 W O A D. 824 Ifatis.

EMPAL. *Cup* four leaves. *Leaves* egg-shaped; rather expanding; coloured; deciduous.

BLOSS. Four petals, forming a cross. *Petals* oblong; blunt; expanding; gradually tapering into *Claws*.

CHIVES. *Threads* six; upright, but expanding; as long as the blossom; but two of them not quite so long. *Tips* oblong; lateral.

POINT. *Seedbud* oblong; two-edged; compressed; as long as the shorter chives. *Shaft* none. *Summit* a blunt knob.

S. VESS. *Pod* oblong; spear-shaped; blunt; compressed; two-edged; with one cell, not opening; *Valves* two; boat-shaped; compressed; keeled; deciduous.

SEED. Single; egg-shaped; in the center of the seed-vessel.

WOAD. The root-leaves scoloped and the stem-leaves arrow-shaped. Pods oblong—*Blossoms* yellow.

Ifatis sylvestris, seu *angustifolia*. *Paub. pin.* 113.

1. *Ifatis fativa*, seu *latifolia*. *Baub. pin.* 113.

Glastrum fativum. *Gerard.* 49. *Park.* 600. *Ray's Syn.* 307.

Corn-fields and under hedges. B. July.

With the juice of this plant the Ancient Britons painted their bodies to render themselves more terrible to their enemies.—It is much used by the dyers for its blue colour, and it is the basis of many other colours.—Cows eat it; Horses, Sheep and Goats refuse it.

Dyers

Tinctoria

Broad-leaved

FOUR CHIVES LONGER.

280 ROCKET. 823 Bunias.

EMFAL. *Cup* four leaves. *Leaves* oblong egg-shaped; expanding; deciduous.

BLOSS. Four petals, forming a cross. *Petals* inversely egg-shaped; twice as long as the cup. *Claws* taper; upright.

CHIVES. *Threads* six; as long as the cup. The two opposite chives not quite so long. *Tips* upright; cloven at the base.

POINT. *Seedbud* oblong. *Shaft* none. *Summit* blunt.

S. Viss. *Pod* irregular; oblong egg-shaped; with four sides; edges with one or two sharp points; not opening; deciduous.

SEEDS. Few; roundish. One placed under each point of the pod.

Sea
Cakile

ROCKET. The pods egg-shaped, smooth and two-edged — *Blossoms* pale purple.

Cakile quibusdam, aliis Eruca marina, et Raphanus marinus, Ray's Syn. 307.

Eruca marina. Gerard. 248. anglica. Park. 821.

Eruca maritima Italica, fil. qua hastæ cuspidi simili, Baux.

pix. 99.

Sea-shore. A. June.

Horses eat it.

281 LADY-

281 LADYSMOCK. 812 Cardamine.

EMFAL. *Cup* four leaves. *Leaves* oblong egg-shaped; blunt; rather open; hunched; small; deciduous.

BLOSS. Four petals, forming a cross. *Petals* oblong egg-shaped; greatly expanded; ending in *Claws*, which are upright and twice as long as the cup.

CHIVES. *Threads* six; awl-shaped. The two opposite threads twice as long as the cup; the other four still longer than them. *Tips* small; oblong heart-shaped; upright.

POINT. *Seedbud* slender; cylindrical; as long as the chives. *Shaft* none. *Summit* a blunt knob; entire.

S. VESS. *Pod* long; cylindrical but compressed. *Cells* two; *Valves* two. The *Valves* when open roll into a spiral.

SEEDS. Many; roundish.

Obs. In the fifth species the two shorter chives are often wanting; and the third species is generally without petals. In the sixth species the claws of the petals are not longer than the cup, and the two shorter threads are only as long as the cup.

* *Leaves simple.*

LADYSMOCK. The leaves simple; egg-shaped; very entire; on long leaf-stalks—*Stem* leaves sitting. This is about the size of the Early Whitlow-grass, but after flowering the pods shoot out and become long. Blossoms white; sometimes tinged with purple. Cups brown.

Daisy-leaved
Bellidifolia

Cardamine pumila bellidis folio, alpina. *Gerard.* 260. *Ray's Syn.* 301.

Plantula Cardamines alterius æmula Clusii. *Park.* 812.

Nasturtium alpinum bellidis folio minus. *Bauh. pin.* 103.

St. Vincent's Rock. P. April—May.

LADYSMOCK. The leaves simple, oblong and toothed—*Stem* simple. Blossoms white.

Mountain
Petraea

Nasturtium petraeum. *Ray's Syn.* 300.

On the highest mountains. P. May.

* * *Leaves*

* * *Leaves winged.*Naked
Impatiens

LADYSMOCK. The leaves winged; jagged; with props. Flowers without petals—*Linnaeus* says that in the year 1764 he found a single flower with white petals; the petals larger than those of the next species, and the plant differing therefrom.

Cardamine impatiens, vulgo Sium minus impatiens. *Gerard.* 260. *Ray's Syn.* 297.

Sium minimum, noli me tangere dictum, five impatiens Nasturtii sylvestris folio. *Park.* 1241.

Impatient Lady-smock.

Moist hills, and near rivulets on mountains. A. April.

Swine refuse it.

Small flowered
Parviflora

LADYSMOCK. The leaves winged; without props. Little leaves spear-shaped; blunt. Flowers with petals—*Chives* shorter than the blossom. Pods upright; upon horizontal fruit-stalks. Blossoms white.

In meadows, and near rivulets. A. March—May.

Hairy
Hirsuta

LADYSMOCK. The leaves winged; flowers with four chives—*Blossoms* white; in naked spikes.

Cardamine impatiens altera hirsutior. *Ray's Syn.* 300.

Nasturtium aquaticum minus. *Bauh. pin.* 101.

Meadows and shady places. A. April—August.

Common
Pratenfis

LADYSMOCK. The leaves winged; little leaves of the root-leaves circular; those of the stem-leaves spear-shaped—*Blossoms* white, or tinged with purple.

Cardamine. *Gerard.* 259. *Ray's Syn.* 299.

Nasturtium pratense magno flore. *Bauh. pin.* 104.

Nasturtium pratense majus, seu Cardamine latifolia. *Park.* 825.

1. Blossoms double white, or double purple.

Cuckow Flower.

Meadows and moist pastures. P. April.

The virtue of the flowers in Hysterical and Epileptic cases, was first mentioned by Mr. Ray, in his letters published by himself; and since then by Dr. Baker in the *Medical Transf.* vol. 1. p. 442. the dose from twenty to ninety grains twice a day. Do they not act like the *Treacle* WORMSEED in the Epilepsies of children, and cure the disease by destroying the worms in the stomach and intestines which were the cause of the fits? I have accounts of their success in young Epileptics, from good authority; but have never been fortunate enough to see them of much use in Hysterical Cases.—Goats and Sheep eat it; Horses and Swine refuse it; Cows are not fond of it.

LADY-

LADYSMOCK. The leaves winged ; flowers on shoots, Bitter springing from the bosoms of the leaves—*Stem leaves and root Amara leaves of the same size. Petals more upright than in the preceding species. Tips purple. Creeping shoots descend from the base of the leaves. Blossoms white.*

Cardamine flore majore elatior. Ray's Syn. 299.

Nasturtium aquaticum majus et amarum. Baub. pin. 104.

Nasturtium aquaticum. amarum. Park. 1239.

Bitter Cresses.

Near purls of water, and in moist meadows. A. April.

Sheep eat it ; Cows are not fond of it.

The Orange Tip Butterfly, *Papilio Cardamines*, lives upon the different species.

282 MUSTARD. 821 Sinapis.

EMFAL. *Cup* four leaves ; expanding. *Leaves* strap-shaped ; concave : channelled ; standing cross-ways and expanding ; deciduous.

BLOSS. Four petals, forming a cross. *Petals* circular ; flat ; expanding ; entire. *Claws* upright ; strap-shaped ; rather shorter than the cup ; sitting.

Honeycup Glands four ; egg-shaped. One placed betwixt each shorter chive and the pointal, and one betwixt each pair of longer chives and the cup.

CHIVES. *Threads* six ; awl-shaped ; upright ; the two opposite threads as long as the cup ; the other four longer. *Tips* upright ; but expanding ; tapering.

POINT. *Seedbud* cylindrical. *Shaft* as long as the seedbud, and as tall as the chives. *Summit* a knob ; entire.

S. VESS. *Pod* oblong ; with protuberances on the lower part ; rough. *Cells* two ; *Valves* two. *Partition* large ; compressed ; generally twice as long as the valves.

SEEDS. Many ; Globular.

OES. *This genus differs from the CABBAGE by the expanding cup, and the claws of the blossom being upright.*

MUSTARD

Charlock
Arvensis

MUSTARD. The pods with many angles ; turgid, bunched out by the seeds ; smooth ; longer than the two-edged bill—*Leaves harsh ; deeply indented and serrated. Blossoms yellow. Seeds brown.*

Rapistrum arvarum. Gerard. 233. Park. 862. Ray's Syn. 295.

Rapistrum flore luteo. Bauh. pin. 95.

Wild Mustard. Corn Cale.

Corn-fields, and under hedges. A. May.

The Scandinavians boil and eat it as Cabbage, and in Ireland the tender tops are collected for the same purpose.—Cows, Goats and Swine eat it ; Sheep are very fond of it ; Horses generally refuse it.

White
Alba

MUSTARD. The pods rough with strong hairs, furnished with a very long-bill ; oblique and sword-shaped—*Stem branched ; hairy. Leaves rough, deeply indented. Blossoms yellow. Seeds white, or reddish.*

Sinapi album filiqua hirsuta, semine albo vel ruffo. Ray's Syn. 295.

Sinapi album. Gerard. 244.

Sinapi apii folio. Bauh. pin. 93.

† Road-sides and ploughed-fields. A. August.

This is sown in the winter and early in the spring to supply our tables with fallading—the seeds have nearly the same properties as those of the next species.

Black
Nigra

MUSTARD. The pods smooth ; lying contiguous to the stem—*Lower leaves rough, deeply indented : Upper leaves smooth ; entire. Cups yellow. Blossoms pale yellow.*

Sinapi rapi folio. Bauh. pin. 99.

Sinapi sativum secundum. Gerard. 243. Ray's Syn. 295.

Common Mustard.

Corn-fields, ditch-banks and road-sides. A. June.

The seeds reduced to powder, make the common mustard, so much in request at our tables—they yield a considerable quantity of expressed oil which partakes but little of the acrimony of the plant—the seeds when unbruised impart but little taste to boiling water. Taken inwardly in the quantity of a meat-spoonful or more, they gently loosen the bowels, and are of service in chronic Rheumatisms and Palsies.—The powdered seeds curdle milk, and give a strong impregnation to boiling water. This infusion taken in considerable quantity, vomits ; in smaller doses it is a useful aperient and diuretic. Cataplasms formed with crumb of bread, vinegar and powdered mustard-seed are very commonly applied to the soles of the feet as stimulants, in Fevers that require such treatment ; they are used with advantage, topically applied,

applied, in fixed rheumatic and sciatic pains—upon the whole, wherever we want a strong stimulus that acts upon the nervous system without exciting much heat, we know none preferable to mustard seed. Its acrimony consists in an essential oil.

The spotted red and white under wing Moth, *Phalena fuliginosa*, lives upon the different species.

283 WATERCRESS. 813 Sifymbrium.

EMPAI. *Cup* four leaves. *Leaves* betwixt spear and strap-shaped; expanding; coloured; deciduous.

BLOSS. Four petals forming a cross. *Petals* oblong; expanding; generally smaller than the cup; *Claws* very small.

CHIVES. *Threads* six; longer than the cup. The two opposite threads somewhat shorter. *Tips* simple.

POINT. *Seedbud* oblong; thread-shaped. *Shaft* very short. *Summit* blunt.

S. VESS. *Pod* long; crooked; hunched; cylindrical. *Cells* two; *Valves* two; straight; rather shorter than the partition.

SEEDS. Many; small.

Obs. In the second and third species the pod is hunched and very short; but in the sixth species the pod is very long and very slender.

* *Pods* short; declining.

WATERCRESS. The pods declining; leaves winged: Common little leaves nearly heart-shaped—*Flossoms* subite, terminating. Nasturtium Sifymbrium cardamine, seu nasturtium aquaticum. Ray's Syn. 300.

Nasturtium aquaticum vulgare. Park. 1239.

Nasturtium aquaticum supinum. Baub. pin. 104.

Nasturtium aquaticum seu cratevæ situm. Gerard. 257.

Water-cresses.

1. There are varieties in which the leaves are sometimes smaller; and in others the winged clefts are fewer. Ray's Syn. 301. Springs, brooks and rivulets. P. May.

This is very universally used as an early and wholesome spring salad—it is an excellent Antiscorbutic and Stomachic, with less acrimony than the Scurvy grass. It is an ingredient in the Antiscorbutic Juices.

Rocket
Sylvestre

WATERCRESS. The pods declining; oblong egg-shaped. Leaves spear-shaped; serrated—*Blossoms yellow.*

Eruca aquatica. Gerard. 248. Park. 1242. Ray's Syn. 297.

Eruca sylvestris minor, luteo parvoque flore. Baub. pin. 98.

Water Rocket.

Marthes and shallow streams. P. June.

Radish
Amphibium

WATERCRESS. The pods declining; oblong egg-shaped. Leaves with winged clefts; segments serrated—*In deep waters the leaves beneath the surface are narrow and winged; those above are spear-shaped and serrated. Blossoms yellow.*

Raphanus aquaticus rapistri folio. Baub. pin. 97.

Raphanus aquaticus alter. Park. 1229.

Rapistrum aquaticum. Gerard. 240.

1. Leaves serrated; with winged clefts. Stem rather stiff and straight.

Raphanus aquaticus foliis in profundas lacinias divisis. Baub. pin. 97. Ray's Syn. 301.

Water Radish.

In shallow waters. P. June.

Cows refuse it; Sheep and Goats are not fond of it.

* * Stem with few leaves.

Wall
Murale

WATERCRESS. The stem with very few or no leaves. The leaves spear-shaped; indented; serrated; nearly smooth. Stalks a little rough; ascending—*Stem a little rough, with a few stiff hairs. Leaves on leaf-stalks; with a few hairs on the under surface. Flowering stalks long; at first drooping; afterwards ascending. Cups half expanding; vaulted at the top, set with a very few hairs. Blossoms yellow; very blunt. Pods rather thick and compressed. Valves a little keel-shaped.*

Eruca monensis laciniata lutea. Ray's Syn. 297.

Eruca sylvestris minor lutea, bursa pastoris folio. Baub. pin. 98.

Wall Rocket.

Sandy soil near the sea. P. June.

Yellow
Monense

WATERCRESS. The stem without leaves. Leaves winged and toothed; somewhat hairy—*Leaves with winged clefts; the segments remote; blunt; generally seven on each leaf. Flowering stalks upright; smooth. Cups closed. Petals yellow; entire.*

Yellow Rocket.

On the Isle of Anglesea. P. June.

* * * Leaves

* * * *Leaves winged.*

WATERCRESS. The petals smaller than the cup. Leaves Flix-weed winged; doubly compound—*Pods long; stiff and crooked.* Seeds *Sophia yellow.* Blossoms *yellow.*

Erysimum sophia dictum Ray's Syn. 298.

Sophia chirurgorum. Gerard. 1068. Park. 830.

Nasturtium sylvestre tenuissimum divisum. Baub. pin. 105.

Flix-weed.

On roofs and among rubbish. A. July.

The pods retain the seeds all winter, and small birds feed upon them—the force of a gun is said to be augmented if the gun-powder is mixed with a tenth part of these seeds—the plant is sometimes prescribed in Hysterical and Dysenteric cases; and the seeds are given to destroy worms.—Sheep and Cows eat it; Horses and Goats are not fond of it; Swine refuse it.

WATERCRESS. The leaves notched; toothed and naked. Broad-leaved Stem smooth. Pods upright—*Leaves very green.* Blossoms *Iris yellow.*

Erysimum latifolium Neapolitanum. Park. 834. Ray's Syn. 298.

Erysimum latifolium majus glabrum. Baub. pin. 101.

Broad-leaved Rocket. Hedge Mustard.

On old walls and among rubbish. A. May—August.

C L A S S XVI.

IN this Class the *Threads* are all united together at the bottom, but separate at the top. The *ORDERS* are determined by the number of *Chives*. The *Flowers* admit of the following

N A T U R A L C H A R A C T E R.

EMFAL. *Cup* always present; permanent; in many instances double.

BLOSS. *Petals* five; inversely heart-shaped; the edge of one lying over the edge of the next, from the right to the left.

CHIVES. *Threads* united at the bottom; separate at the top. The outer ones the shortest. *Tips* fixed sideways to the threads.

POINT. *Receptacle of the fruit* projecting in the center of the flower. *Seedbuds* upright, surrounding the top of the receptacle in a jointed circle. *Shafts* united at bottom into one body with the receptacle, but separated at the top into as many parts as there are seedbuds. *Summits* expanding, slender,

S. VESS. *Capsules* divided into as many cells as there are shafts; of various figures in different Genera; and often composed of the same number of seed-coats united.

SEEDS. Kidney-shaped.

Obs. *The plants of this class have generally been supposed to have only one petal; but the petals are distinct at the base, although by means of the chives they seem united into one body; we may therefore more properly consider them as having five petals.*

The plants with MANY CHIVES are mucilaginous and emollient; and these properties are common to every part of the plant. None of them are poisonous.

C L A S S XVI.

THREADS UNITED.

Order IV. Ten Chives.

- 284 CRANESBILL. One pointal. *Capsule* five dry berries ; with a long bill.

Order VI. Many Chives.

- 285 VELVETLEAF. Many pointals. *Outer Cup* with three clefts. *Seedcoats* in whorls ; one seed in each.
- 286 MAULS. - - Many pointals. *Outer Cup* of three leaves. *Seedcoats* several ; in whorls ; one seed in each.
- 287 MARSHMALLOW. Many pointals. *Outer Cup* with nine clefts. *Seedcoats* in whorls ; one seed in each.

284 CRANESBILL. 832 Geranium.

EMPAL. *Cup* five leaves. *Leaves* egg-shaped; sharp; concave; permanent.

BLOSS. *Petals* five; inversely heart-shaped; or egg-shaped; expanding; large.

CHIVES. *Threads* ten; awl-shaped; expanding towards the top; alternately longer and shorter; shorter than the blossom. *Tips* oblong, turning about like a vane.

POINT. *Seedbud* with five angles; furnished with a bill. *Shaft* awl-shaped, longer than the chives; permanent. *Summits* five; reflected.

ST VESS. None. *Fruit* five dry berries, furnished with a bill.

SEEDS. Solitary; kidney-shaped; often furnished with a dry husky coat; and a very long awn which after some time rolls up in a spiral form.

Obs. *In some species only every other chive is furnished with a tip. The awn of the seed in some species is hairy; in others smooth. In the three first species the petals are not quite equal: there is a little gland betwixt each petal; the threads are ten, but only every other thread is furnished with a tip; the flowers grow in rundles; the seeds are naked and the awns hairy. In the fourteenth species only five of the threads have tips.*

* *Five chives furnished with tips.*

Hemlock-
leaved
Cicutarium

CRANESBILL. The fruit-stalks supporting more than two or three flowers. Leaves winged; jagged; blunt. Stem branched—*Petals* entire; elevated above the cup; the two upper ones with a spot at the base: red.

Geranium Cicutæ folio inodorum. Gerard. 945. Ray's Syn.

357.

Geranium Cicutæ folio minus et supinum. Raub. pin. 319.

Geranium Moschatum inodorum. Park. 708.

1. There is a variety with a white flower. *Gerard. 946.*

On walls, road-sides, and among rubbish. A. April—June. Cows and Horses eat it; Sheep are not fond of it.

CRANESBILL.

CRANESBILL. The fruit-stalks supporting more than two Musk flowers. Leaves winged; jagged. The lateral lobe of the seed Moschatum with winged clefts—*Blossoms red, or purple.*

Geranium Moschatum. Gerard. 941. Park. 706. Ray's Syn. 358.

Geranium Cicutæ folio, Moschatum. Raub. pin. 319.

Musked, or Muscovy Cranes-bill. Burnet-leaved Musk Cranes-bill.

Dry pastures. A. May.

The whole plant smells like Musk, but it loses this property when bruised.

CRANESBILL. The fruit-stalks supporting two or three Sea flowers: leaves heart-shaped; scolloped; jagged; rough. Stems *Maritimum* trailing—*Blossoms pale red.* Petals entire. The plant lies close upon the ground.

Geranium pusillum supinum Maritimum althææ aut betonicæ folio nostras. Ray's Syn. 356.

On the sea-coast. P. June--July.

* * Ten chives furnished with Tips. Fruit-stalks supporting two flowers.

CRANESBILL. The fruit-stalks solitary; growing opposite Spotted to the leaves, Cups generally furnished with awns; stem up-Phæum right; petals waved at the edge—*Leaves downy; alternate; with five lobes; serrated. Blossoms dark purple.*

Geranium montanum fuscum. Raub. pin. 318. Ray's Syn. 361.

Geranium maculatum fuscum. Gerard. 942.

Geranium pullo flore. Park. 704.

Hilly places. P. May—June.

CRANESBILL. The fruit-stalks supporting two flowers; Knotty petals notched at the end. Stem leaves with three lobes; entire; *Nodosum* serrated. upper leaves nearly sitting. Stems spreading, compressed—*joints thick; generally red. Blossoms red.*

Geranium V nodosum Plateau. Gerard. 947. Ray's Syn. 361.

Geranium nodosum. Raub. pin. 318. Park. 704.

Mountains in Cumberland. P. July—August.

Mountain
Sylvaticum

CRANESBILL. The fruit-stalks supporting two flowers. Leaf-stalks nearly central. Leaves with five lobes; jagged; serrated. Stem upright; petals notched at the end—*Panicle forked; nearly level.* Blossom bell-shaped; expanding. Cups with awns. Shaft not longer than the chives. Cup after flowering upright, and the awns reflected. Blossoms purplish red; sometimes white; or variegated.

Geranium batrachoides montanum nostras. Gerard. 942.

Geranium batrachoides minus, Park. 704.

Geranium batrachoides folio aconiti. Baub. pin. 317.

High pastures in the North. P. July—August.

Cows, Goats, Sheep and Swine eat it: Horses refuse it.

Crowfoot
Pratenfe

CRANESBILL. The fruit-stalks supporting two flowers. Leaf-stalks nearly central. Leaves deeply divided into many parts; wrinkled, sharp: petals entire—*Cups with awns.* Blossom flat. Shaft longer than the chives. Cup after flowering closed and pendant. Petals blue.

1. By cultivation the petals will become white or striped.

Geranium batrachoides. Gerard. 942. Ray's Syn. 360.

Geranium batrachoides flore cæruleo. Park 704.

Geranium batrachoides, Gratia Dei Germanorum, Lobelio. Baub. pin. 318.

Meadows and moist pastures. P. June—July.

Horses, Cows, Goats, Sheep and Swine eat it.

Roberts
Robertianum

CRANESBILL. The fruit-stalks supporting two flowers. Cups hairy; with ten angles—*Petals entire. The whole plant sometimes turns red. It has a rank smell.* Stem branched, spreading, jointed. Blossoms red; by cultivation white.

Geranium Robertianum. Gerard. 939. Baub. pin. 319. Ray's Syn. 358.

Geranium Robertianum vulgare. Park. 710.

1. There is as a variety with shining stalks. Ray's Syn. 358.

Herb Robert. Stock-bill.

Walls, hedges and among rubbish. B. April—June.

A decoction of this plant has been known to give relief in Calculous cases. It is considerably astringent, and is given to cattle when they make bloody water.

Horses and Goats eat it; Sheep and Swine refuse it.

CRANESBILL.

CRANESBILL. The fruit-stalks supporting two flowers. Shining! Cups pyramidal; the angles raised and wrinkled. Leaves with Lucidum five lobes; roundish—*Stem branched, reddish, glossy.* Blossoms red. Cups not quite equal.

Geranium saxatile. Gerard 938. Park. 707. Ray's Syn. 361.

Geranium lucidum saxatile. Bauh. pin. 318.

Shining Doves-foot Cranes-bill.

Roofs, walls, and shady places. A. June—July.

CRANESBILL. The fruit-stalks supporting two flowers, Soft and alternating with the floral leaves. Cups without awns. Stem Molle a little upright. Petals cloven but without a sharp point in the middle—*Cups shorter than the petals.* Fruit-stalks declining. Blossoms purple.

Geranium columbinum. Gerard. 938 Ray's Syn. 359.

Geranium columbinum vulgare. Park. 705.

Common Doves-foot Cranes-bill.

Sheep and Goats eat it.

CRANESBILL. The fruit-stalks longer than the leaves; Doves-foot supporting two flowers. Leaves deeply divided into five segments, Columbinum and these again having several shallow clefts. Seed-coats smooth; cups with awns—*Petals notched at the end; with a sharp point in the middle; reddish blue.* Leaves hairy on the under surface.

Geranium columbinum dissectis foliis, pediculis florum longissimis. Ray's Syn. 359.

Long-stalked Doves-foot Cranes-bill.

Corn-fields and high pastures. A. July.

Sheep and Goats eat it: Swine refuse it.

CRANESBILL. The fruit-stalks supporting two flowers. Jagged Leaves deeply divided into five parts, and these again into three Dissectum shallow segments. Petals notched at the end; as long as the cup. Seed coats covered with soft hairs—*Pointal woolly.* Petals the colour of blood; not longer than the cups. Props coloured. Tips violet colour. Fruit-stalks upright. Cups standing open after the petals are shed.

Geranium columbinum majus dissectis foliis. Gerard. 938. Ray's Syn. 359.

Geranium malacoides, seu columbinum alterum. Park. 706.

Geranium columbinum maximum, foliis dissectis. Ray's Syn. 360.

Jagged-leaved Doves-foot Cranes-bill.

Meadows and pastures. A. May—July.

CRANESBILL.

Round-leaved
Rotundifoli-
um

CRANESBILL. The fruit-stalks supporting two flowers ; petals almost entire ; as long as the cup. Stem prostrate on the ground. Leaves kidney-shaped, jagged—*Petals blunt, flesh colour- ed or purple ; by cultivation white.* Cups with sharp points. *The whole plant rather clammy.*

Geranium folio malvæ rotundo. Baub. pin. 318.

Geranium columbinum majus flore minore cæruleo. Ray's Syn. 358.

Walls, roofs and ditch-banks. A. July.

Horses and Sheep eat it : Cows and Swine refuse it.

Upright
Perenne

CRANESBILL. The fruit-stalks supporting two flowers. The lower leaves with five divisions, and these again cloven into many roundish segments. Upper leaves divided into three lobes. Stem upright—*Hudson's Flor. Anglic. P. 265.*

Perennial Doves-foot Cranes-bill.

In hilly pastures. P. May—August.

Small-flowered
Pusillum

CRANESBILL. Fruit-stalks supporting two flowers. Petals notched at the end. Stem depressed. Leaves kidney-shaped ; divided like a hand into strap-shaped sharp segments—*Cups with- out sharp points. Petals purple. Tips blue. Five threads with, and five without tips.*

Geranium columbinum humile, flore cæruleo minimo. Ray's Syn. 359. Tab. 16. fig. 2.

Geranium malacoides, seu columbinum minimum. Park. 707.

Small flowered Doves-foot Cranes-bill.

Corn-fields and dry sandy places. A. June.

*** *Ten cherries with tips. Fruit-stalks supporting one flower.*

Bloody
Sanguineum

CRANESBILL. The fruit-stalks supporting a single flower. Leaves round ; deeply divided into five or seven parts ; and each of these again into three segments—*Blossoms purple. After flower- ing the whole plant sometimes becomes purple.*

Geranium hæmatodes. Park. 705. Ray's Syn. 360.

Geranium sanguineum. Gerard. 945.

Geranium sanguineum maximo flore. Baub. pin. 318.

1. Leaves larger, paler and more deeply divided. *Ray's Syn. 360.*

2. Blossoms elegantly striped. *Ray's Syn. 360.*

3. Stems upright.

Rocks ; dry pastures and hedges. 2. In the Island of Walney in Lancashire, and on the sea-coast. P. July—August.

Horses, Cows and Goats eat it : Swine refuse it.

Order VI, Many Chives.

285 VELVETLEAF. 842 Lavatera.

EMPAL. *Cup* double.

Outer Cup one leaf, with three shallow clefts; blunt; short; permanent.

Inner Cup one leaf; with five shallow clefts; segments sharper; upright; permanent.

BLOSS. *Petals* five; united at the base; inversely heart-shaped; flat; expanding.

CHIVES. *Threads* numerous; united at the bottom into a cylinder; loose at the top; fixed to the blossom. *Tips* kidney-shaped.

POINT. *Seedbud* round and flat. *Shaft* cylindrical; short. *Summits* many, (from seven to fourteen) bristle-shaped; as long as the shaft.

S. VESS. *Seedcoats* forming a whorl round the *Receptacle*, which stands in the center like a pillar. The whorl depressed; not jointed. *Seedcoats* deciduous, opening inwardly.

SEEDS. Solitary; kidney-shaped.

Obs. Linnaeus says the petals are five, united at the base; but in the English species the blossom is more properly one petal, deeply divided into five segments, which falls off without being separated.

VELVETLEAF. The stem woody. Leaves with seven Tree angles; downy; plaited. Fruit-stalks supporting one flower; Arborea crowded together at the base of the leaves.—*Blossoms* pale purple.

Malva arborea marina nostras. Ray's Syn. 252.

Malva arborea veneta dicta, parvo flore. Baub. pin. 315.

Sea-tree Mallow.

On the sea-shore. B. August.

286 MAULS. 341 Malva.

EMPAL. Cup double.

Outer Cup three leaves; narrow; heart-shaped; sharp; permanent.

Inner Cup one leaf, with five shallow clefts: large; broad; permanent.

BLOSS. Petals five; united at the base; inversely heart-shaped; bitten; flat.

CHIVES. Threads numerous; united at the bottom into a cylinder; loose at the top; fixed to the blossom. Tips kidney-shaped.

POINT. Seedbud round. Shaft cylindrical; short. Summits many; bristle-shaped; as long as the shaft.

S. VESS. Seedcoats forming a whorl round the Receptacle, which stands in the center like a pillar. The whorl depressed; not jointed. Seedcoats deciduous; opening inwardly.

SEEDS. Solitary; kidney-shaped.

Obs. All the species are mucilaginous and emollient—The dust is a pretty microscopic object, being toothed like the wheel of a watch.

Small-leaved
Parviflora

MAULS. The stem spreading; leaves angular; flowers at the base of the leaves; sitting; congregated. Cups smooth; expanding—Purple when the fruit ripens. Blossoms purplish. Seedcoats wrinkled at the top, and toothed at the sides.

Malva minor, flore parvo cæruleo. Ray's Syn. 251.

Small Mallow.

In sandy places. B. June.

Dwarf
Rotundifolia

MAULS. The stem prostrate. Leaves circular; but somewhat heart-shaped; with five slight lobes. Fruit-stalks with the fruit declining—Blossoms white, or tinged with purple.

Malva sylvestris pumila. Gerard. 930.

Malva sylvestris folio rotundo. Bauh. pin. 314.

Malva sylvestris minor. Park. 299. Ray's Syn. 250.

Dwarf Mallow.

Road sides, and among rubbish. A. June—October.

The ancients used to eat the leaves as we do Cabbage.—Sheep eat it; Goats, Horses and Swine refuse it; Cows are not fond of it.

MAULS.

MAULS. The stem upright; herbaceous; leaves with seven sharp lobes; fruit-stalks and leaf-stalks hairy—*Blossoms pale purple.* *Sylvestris* Common

Malva sylvestris. Gerard. 930. folio sinuato. Bauh. pin. 314.

Malva vulgaris. Park. 299. Ray's Syn. 251.

Common Mallow.

Hedges, foot-paths, and amongst rubbish. B. May—Oct.

The following varieties are the effect of cultivation, soil and situation.

1. White blossomed.
2. Blue ditto—Found in the fields.
3. Purple striped.
4. White striped.
5. Leaves variegated—Found in the fields.

The young leaves when boiled are good to eat.—Cows eat it.

MAULS. The stem upright. Leaves a little rough; deeply divided into many parts—*Blossoms purple; terminating: by cultivation white.* *Alcea* Vervain

Alcea vulgaris. Ray's Syn. 252.

Alcea vulgaris major. Bauh. pin. 216.

Alcea vulgaris, seu Malva Verbenacea. Park. 301.

Malva Verbenacea. Gerard. 930.

Vervain Mallow.

Ditch-banks, in the counties of Warwick, Leicester and York. P. July—September.

Horses, Cows, Sheep and Goats eat it.

MAULS. The stem upright. Root-leaves kidney-shaped; jagged. Stem-leaves with five divisions, and many winged clefts—*Capsules rough with hairs. Blossoms pale purple; terminating.* *Molchata* Moschata

Alcea tenuifolia crispa. Bauh. Hist. II. ap. 1067.

Ray's Syn. 253.

Alcea folio rotundo laciniato. Bauh. pin. 316.

Jagged-leaved Vervain Mallow.

Pastures and ditch-banks. B. August.

Cows and Horses eat it; Sheep refuse it.

The Grizzle or Brown March Fritillary, *Papilio Malva*, and the Mallows Bug, *Cimex Apteris*, are supported by the different species.

T H R E A D S U N I T E D.

287 MARSHMALLOW. 839 Althæa.

EMPAL. *Cup* double.*Outer Cup* of one leaf, small and permanent; with nine unequal clefts. *Segments* very narrow.*Inner Cup* one leaf; with five shallow clefts. *Segments* broader; sharper, and permanent.BLOSS. *Petals* five; united at the base; inversely heart-shaped; bitten; flat.CHIVES. *Threads* numerous; united at the bottom into a cylinder; loose at the top; fixed to the blossom. *Tips* nearly kidney-shaped.POINT. *Seedbud* round and flat. *Shaft* cylindrical; short. *Summits* numerous; (about twenty;) bristle-shaped; as long as the shafts.S. VESS. *Seedcoats* forming a whorl round the *Receptacle*, which stands in the center like a pillar: the whorls depressed; not jointed. *Seedcoats* deciduous, opening inwardly.

SEEDS. Solitary; kidney-shaped but compressed.

Common
OfficinalisMARSHMALLOW, with simple, downy leaves—*Blossoms* purplish white.

Althæa vulgaris. Park. 303. Ray's Syn. 252.

Althæa Ibisus. Gerard. 933.

Althæa Dioscoridis et Plinii. Baub. pin. 315.

1. Leaves deeply indented.

2. Leaves more circular.

3. Leaves short, dented.

In salt marshes. P. August.

The whole plant, particularly the root abounds with a mild mucilage. The root boiled is much used as an emollient cataplasm, and an infusion of it is very generally prescribed in all cases wherein mild mucilaginous substances are useful.

CLASS.

C L A S S XVII.

THIS Class comprehends the *Butterfly-shaped* flowers, and the *Leguminous* plants of some authors. Linnaeus takes the CLASSIC character from the *disposition*, and the character of the ORDERS from the *Number* of the Chives. From the title of the Class, the young Botanist would be led to imagine, that the threads are always formed into two sets, but this is by no means the case; in many instances they are *all* united into one set. The *Butterfly-shape* of the blossom will therefore be a surer guide. If the student will get the flower of a Garden Pea, and compare it with the following NATURAL CHARACTER, there will no longer remain any difficulty in pronouncing at first sight, whether a plant belongs to this Class or not.

NATURAL

C L A S S XVII.

N A T U R A L C H A R A C T E R.

EMERAL. *Cup* one leaf, bell-shaped; shrivelling; hunched at the base; the lower part connected with the fruit-stalk; the upper part blunt; containing honey. *Rim* with five teeth; sharp; upright; oblique; unequal. The *lower Tooth* long, the *two upper teeth* shorter and standing further asunder. The bottom of the cup inclosing the receptacle, is moistened with a liquor like honey.

BLOSS. *Butterfly-shaped*, unequal; each petal having a distinct name. Thus the *Standard* is the largest petal, lying upon and covering the others. It is flat and horizontal; fixed by a claw to the upper edge of the receptacle; that part of it which stands out of the cup is nearly circular and entire; a rising line marking it length-ways, particularly towards the end, as if it had been pressed down at the sides. That part of the petal next to the base is somewhat like half a cylinder, and incloses the parts that lie under it. The border of the petal is depressed on each side, but the sides next to the edge are turned upwards, where the half cylinder terminates. At the unfolding of the border there are two concave impressions, prominent on the under side, and compressing the wings which lie beneath them.

The *wings* are two equal petals, one placed on each side the flower under the standard. The borders incumbent; parallel; circular or oblong, broadest outwards; the upper edge pretty straight, the lower extended and rounded. The base of each wing is cleft; the *lower Segment* extending into a claw which is fixed to the side of the receptacle and is about as long as the cup. The *upper Segment* is shorter and bent inwards.

The *Keel* is the lowermost petal, generally divided; placed under the standard, and betwixt the wings. It is boat-shaped, concave, compressed at the sides; placed in the position of a boat upon the water. It is diminished at the base, the lower part extending into a claw as long as the cup, and fixed to the receptacle. The upper and lateral segments, which
are

are shorter, are interwoven with those parts of the wings which resemble them in shape. The sides of the keel are shaped like the wings, and have a similar situation only lower and more inwards. The line that forms the keel in this petal is straight as far as the middle, and then gradually rises in an arch; but the marginal line runs straight to the extremity, until it meets with, and is lost in that of the keel.

CHIVES. *Threads* united into two bodies, differing in shape. The *lower Thread* inclosing the pointal, the *upper Thread* lying upon it.

Lower Thread inclosing the seedbud; membranaceous below the middle, and cylindrical; opening upwards and length-ways; terminating in nine awl-shaped threads, bent like the keel and equal to it in length; alternately two longer and two shorter.

Upper Thread awl or bristle-shaped. Similar in situation to, and lying upon the opening of the cylindrical part of the lower thread; simple, and a little shorter than that: separated from the others at the base, so as to give a vent on each side for the honey.

Tips ten. One upon the upper thread, nine upon the lower. Small; equal in size; terminating.

POINT. Single; superior.

Seedbud oblong; nearly cylindrical; slightly compressed; straight; as long as the cylinder of the lower thread, by which it is inclosed.

Shaft awl-shaped or thread-shaped; ascending; agreeing in length and situation, with the divisions of the lower thread and placed amongst them: shrivelling.

Summit downy as far as it is turned upwards: Placed directly under the tips.

S. VESS. *Shell* oblong; compressed; blunt; with two valves and a seam running length-ways both above and below; both seams straight, but the upper seam falling near the base and the lower seam rising towards the end. It opens at the upper seam.

SEEDS. Several; roundish; smooth; fleshy; pendant. Marked with a prominence caused by the young plant near the insertion of the eye. When the young plant is excluded, the side lobes retain the figure of half the seed.

Receptacles *proper to the Seeds* are small; very short; slender at the base; blunt at the part by which they are fixed. Inserted length-ways in the upper seam only of the pod, but alternately; so that the valves being separated, the seeds adhere alternately to each valve.

Obs. This Class is perfectly natural and the structure of the flowers extremely singular: their situation is generally obliquely pendant.

The figure of the SHELL is not of so much consequence in ascertaining the Genera as some have imagined; but the CUP, which hath been hitherto thought unworthy of notice, is of the greatest use. The LEAVES never should be considered in forming the characters of Genera.

The SEEDS of this Class furnish food for men and other animals: they are farinaceous and flatulent: The LEAVES are food for cattle. None of them are poisonous.

C L A S S XVII.

THREADS in two SETS.

Order II. Six Chives.

- 188 FUMITORY. *Cup* two leaves. *Blossom* gaping,
hunched at the base ; containing
honey. Three tips on each thread.

Order III. Eight Chives.

- 189 MILKWORT. *Cup* with two segments like wings.
Bloss. with a cylindrical standard.
Chives connected. *Capsule* inver-
sely heart-shaped ; with two cells.

Order IV. Ten Chives.

* *Threads all united.*

- 190 BROOM. - *Threads* adhering close to the seed-
bud. *Summit* woolly ; growing
to the upper side of the shaft.
- 191 GREENWOOD. *Pointal* pressing down the keel.
Summit rolled inwards.
- 192 LADIESFINGER. *Cup* swollen and turgid ; inclosing
the pod.
- 193 GORZE. - *Cup* two leaves. *Shell* hardly longer
than the cup.
- 194 RESTHARROW. *Shell* diamond-shaped, fitting. Stand-
ard scored.

E 2

* * *Summit*

THREADS IN TWO SETS.

* * *Summit downy.* (without the marks of the former division.)

- | | | |
|-----|------------|---|
| 295 | PEASELING. | Shaft slender; cylindrical; woolly.
On the upper, or inner side. |
| 296 | PEA. - - - | Shaft keel-shaped above, and woolly. |
| 297 | VETCHLING. | Shaft flat above, and woolly. |
| 298 | VETCH. - - | Shaft bearded under the Summit. |

*** Shells with two cells. (without the marks of the former divisions)

- 299 COCKLEWORT. *Shell* with two cells, rounded.

* * * * Shells with one or two seeds. (without the marks of the former divisions.)

- 300 TREFOIL. - *Shell* but little longer than the cup ;
with one or two seeds. Flowers
in heads.

* * * * * *Shell with the appearance of being jointed.*

- 501 SAINTFOIN. *Shell with roundish compressed joints.*
Keel very blunt.

- 302 BIRDSFOOT. *Shell jointed; bent like a bow.*

- 303 HORSESHOE. *Shell compressed; membranaceous; one of the seams hollowed out with deep notches, deeper than the middle of the shell.*

- 304 SNAILSHELL. *Shell* spiral; membranaceous; compressed. *Pointal* pressing down the keel.

***** Shell with one cell, and many seeds. (Without the marks of the former divisions.)

- 305 TARE. - - *Cup* with five divisions, somewhat equal; nearly as long as the blossom.

- 306 CLAYFR. - Shell cylindrical; filled with cylindrical seeds.

288 FUMITORY. 849 Fumaria.

EMPALE. *Cup* two leaves. *Leaves* opposite; equal; lateral; upright; sharp; small; deciduous.

BLOSS. Oblong; tubular; gaping; palate projecting and filling up the mouth.

Upper Lip flat; blunt; notched at the end; reflected. (*The Standard.*)

The Honey-cup is the base of the upper lip projecting backwards; blunt.

Lower Lip altogether similar to the upper lip. Towards the base it is keel-shaped. (*The Keel.*)

Honey-cup at the base is keel-shaped; but projecting less in this than in most other genera.

Mouth with four corners; blunt; cloven perpendicularly. (*Wings.*)

CHIVES. *Threads* two; equal; broad; taper; one inclosed within each lip. *Tips*, three at the end of each thread.

POINT. *Seedbud* oblong; compressed; tapering. *Shaft* short. *Summit* round; compressed; upright.

S.VESS. Pod, with one cell.

SEEDS. Roundish.

OBS. *The Chives are almost the only invariable part in this genus.*

FUMITORY. The seed-vessels in bunches, each containing a single seed. Stem spreading.—*Leaves doubly winged; little leaves with three lobes, and these again cloven into two or three parts. Blossoms pink and deep purple; in long terminating spikes.* *Officialis*

Fumaria vulgaris. *Park.* 287. *Ray's Syn.* 204.

Fumaria purpurea. *Gerard.* 1088.

Fumaria officinarum et Dioscoridis. *Bauh. pin* 143.

Corn-fields. Ditch-banks. A. April—June.

The following varieties are the product of cultivation,

1. Pale purple.

2. White blossomed.

3. Fine leaved.

The leaves are succulent, saline and bitter. The expressed juice in doses of two or three ounces, is useful in hypochondriacal, scorbutic and cachectic habits. It corrects acidity and strengthens the tone of the stomach. Hoffman prefers it to all other medicines as a sweetener of the blood. There is no doubt of its utility in obstructions of the viscera and the diseases arising therefrom.—Cows and Sheep eat it; Goats are not fond of it; Horses and Swine refuse it.

Ramping
Capreolata

FUMITORY. The seed-vessels in bunches, each containing a single seed. Leaves climbing, furnished with a sort of tendrils—*Partial fruit-stalks crooked.* Blossoms *pale red.*

By some this is supposed to be only a variety of the former, but it is remarkable that it is not to be met with in Sweden where the former is very common.

Fumaria major scandens flore pallidiore. Ray's Syn. 204.

Woods and hedges. A. August.

Climbing
Claviculata

FUMITORY. The pods strap-shaped; leaves furnished with tendrils—*The tendrils grow from the ends of the leaves.* Blossoms *purplish white, in terminating spikes.*

Fumaria alba latifolia. Park. 288. Ray's Syn. 335. *claviculata.* Gerard. 1088.

Fumaria claviculis donata. Pauh. fin. 143.

Woods and moist hedges. A. June.

Order III. Eight Chives.

289 MILKWORT, 850 Polygala.

EMAL. *Cup* three leaves; small. *Leaves* egg-shaped; sharp; permanent; two placed beneath, and one above the blossom.

BLOSS. Butterfly-shaped. But the number of petals uncertain.

Wings permanent; somewhat egg-shaped; flat; large; placed on the outside the other parts of the blossom, and formed by the teeth of the cup.

Standard generally cylindrical; tubular; short. *Rim* reflected; small; cloven.

Keel concave; compressed; distended towards the end.

Appendages; generally two; pencil-shaped; with three divisions; fixed towards the end of the keel.

CHIVES. *Threads* eight; united; inclosed in the keel.

Tips eight; simple.

POINT. *Seedbud* oblong. *Shaft* simple; upright. *Summit* terminating; thick; cloven.

S. VESS. *Capsule* betwixt turban and heart-shaped; compressed; sharp at the edge. Cells two; valves two.

Partition placed cross-ways to the valves; opening at the edge on each side.

SEEDS. Solitary; egg-shaped.

Obs. *The appendix to the keel is different in different species, The wings of the Blossom may be considered as two lateral coloured leaves belonging to the empalement, and then it will be a Cup composed of five leaves.*

MILKWORT. The flowers in bunches, with pencil-shaped appendages. Stems herbaceous; simple; trailing. Leaves betwixt strap and spear-shaped—*Blossoms* blue, white, or flesh coloured; in terminating spikes. Meadow *Vulgaris*

Polygala. *Gerard.* 563. *Ray's Syn.* 287. minor. *Park.* 1332.

Polygala vulgaris. *Park.* 215.

On heaths and poor meadow ground. P. June—July.

Linnæus found it to possess the properties of the Senega Rattle Snake Root, (POLYGALA SENEGA,) but in an inferior degree. Duhamel used it in Pleuritic Cases with the desired success. *Mém. de l'Acad. des Sc. de Par.* 1740. The powdered root may be given in doses of half a dram.—Cows, Goats and Sheep eat it; Swine refuse it.

THREADS IN TWO SETS.

Order IV. Ten Chives.

290 BROOM. 858 Spartium.

EMPAL. *Cup* one leaf; heart-shaped, but tubular; small; coloured; the upper margin very short; the lower towards the end set with three or five little teeth.

BLOSS. Butterfly-shaped; petals five.

Standard inversely heart-shaped; entirely reflected; large.

Wings egg-shaped; oblong; shorter than the standard; connected with the threads.

Keel two petals, spear-shaped; oblong; longer than the wings: connected at the keel-shaped margin by soft hairs; fixed to the threads.

CHIVES *Threads* ten; connected; unequal; the uppermost the shortest and from that growing gradually longer. The lower cloven into nine parts. *Tips* rather oblong.

POINT. *Seedbud* oblong; hairy. *Shaft* awl-shaped; hairy; rising upwards. *Summit* fixed to the upper side of the shaft, near the end.

S. VESS. *Shell* cylindrical; long; blunt; with one cell and two valves.

SEEDS. Many; globular, but somewhat kidney-shaped.

Common
Scoparium

BROOM. The leaves growing by threes, and solitary. Branches without prickles; angular—*Blossoms* yellow.

Genista angulosa et scoparia. Bauh. pin. 395.

Genista angulosa trifolia. Ray's Syn. 475.

Genista, Gerard. 1311. *vulgaris et scoparia. Park.* 228.

Dry Pastures. S. May—June.

The young flowers are sometimes preserved as pickles—the plant when burnt affords a tolerably pure Alcaline Salt—Dr. Mead relates the case of a dropfical patient that was cured by taking half a pint of a decoction of Green Broom tops, with a spoonful of whole Mustard-seed, every morning and evening. The patient had been tapped three times, and tried the usual remedies before. (*Monita et præcept. Medica. p.* 138.) An infusion of the seeds drank freely, has been known to produce similar happy effects: but whoever expects these effects to follow in every dropfical case, will be greatly deceived. I knew them succeed in one case that was truly deplorable; but out of a great number of cases in which the medicine had a fair trial, this proved a single instance.—Cows, Horses and Sheep refuse it.

The Broom Moth, *Phalæna Pisi* feeds upon it.

291 GREEN-

291 GREENWOOD. 859 Genista.

EMFAL. *Cup* one leaf; small; tubular; mostly with two lips. *Upper Lip* with two teeth, more deeply divided than the *Lower Lip* which hath three teeth nearly equal.

BLOSS. Butterfly-shaped.

Standard egg-shaped but sharp; distant from the keel; entirely reflected.

Wings oblong; flexible; shorter than the other petals.

Keel straight; notched at the end; longer than the standard.

CHIVES. *Threads* ten; connected; rising out of the keel.

Tips simple.

POINT. *Seedbud* oblong. *Shaft* simple; rising upwards.

Summit sharp; rolled inwards.

S.VESS. *Shell* roundish; turgid; with one cell, and two valves.

SEEDS. Solitary; generally kidney-shaped.

GREENWOOD. The leaves spear-shaped and smooth; the branches scored, cylindrical and upright.—*Blossoms* yellow. Dyers Tindoria

Genista tinctoria germanica. *Bauh. pin.* 395.

Genista tinctoria vulgaris. *Park.* 228.

Genistella tinctoria. *Gerard.* 1316. *Ray's Syn.* 474.

Dyers Weed. Wood Waxen.

Pastures, and cornfields. S. July.

A yellow colour may be prepared from the flowers.—A dram and a half of the powered seeds, operates as a mild purgative. A decoction of the plant is sometimes diuretic, and therefore has proved serviceable in dropical cases—Horses, Cows, Goats and Sheep eat it.

BROOM. Thorns simple; flowering branches unarmed; Prickly leaves spear-shaped—*Blossoms* yellow. Anglica

Genista minor aspalathoides, seu genista spinosa anglica. *Bauh. pin.* 395. *Ray's Syn.* 475.

Genista aculeata. *Gerard.* 1320.

Genistella aculeata. *Park.* 1004.

Needle-furze. Petty-whin.

On moist heaths. S. May—June.

The Broom Moth, *Phalena Pisi*, lives upon both species.

292 LADIES-

292 LADIESFINGER. 864 Anthyllis.

EMPAL. *Cup* one leaf; egg-shaped, but oblong; a little bladder-shaped; set with soft hairs. *Rim* with five unequal teeth, permanent.

BLOSS. Butterfly-shaped.

Standard long; with reflected sides, and a claw as long as the cup.

Wings two; oblong; shorter than the standard.

Keel compressed; as long as the wings, and like them.

CHIVES. *Threads* ten; connected; rising upwards. *Tips* simple.

POINT. *Seedbud* oblong. *Shaft* simple; ascending. *Summit* blunt.

S. VESS. *Shell* roundish; inclosed in the cup; very small; with two valves.

SEEDS. One or two.

Double-headed
Vulneraria

LADIESFINGER, Herbaceous: Leaves winged, unequal. Flowers in a double head—*Blossoms* yellow; sometimes red or scarlet; rarely white.

Anthyllis leguminosa, Gerard. 1240. vulgaris. Park, 1393.

Vulneraria rustica. Ray's Syn. 323.

Loto affinis vulneraria pratenfis. Baub. pin. 332.

Kidney-Vetch.

Dry and Chalky pastures. P. July.

The country people get a yellow dye from it—it makes an excellent pasturage for Sheep.—Where the soil was a reddish clay Linnaeus observed the blossoms to be red, but in white clay the blossoms are white.—Goats and Cows eat it.

293 G O R Z E. 881 Ulex.

EMFAL. *Cup* two leaves; permanent. *Leaves* oblong egg-shaped; concave; straight; equal; a little shorter than the keel. The upper leaf with two teeth, the lower with three.

BLOSS. Butterfly-shaped, with five petals.

Standard inversely heart-shaped; notched at the end; straight; large.

Wings oblong; blunt; shorter than the standard.

Keel two petals; straight: blunt; approaching at the lower edge.

CHIVES. *Threads* ten; united. *Tips* simple.

POINT. *Seedbud* oblong; cylindrical; hairy. *Shaft* thread-shaped; rising upwards. *Summit* blunt; small.

S.VESS. *Shell* oblong; turgid; nearly inclosed by the cup; straight: with one cell, and two valves.

SEEDS. Few; roundish; notched.

GORZE. The leaves woolly and sharp; the thorns scattered Common
—*Blossoms* woolly; yellow; rarely white. Europæa.

Genista spinosa vulgaris. Gerard. 1310. Ray's Syn. 475.

Genista spinosa vulgaris, seu scoparius theophrasti, quem Gaza nepam transtulit. Park. 1003.

Forze. Whins.

Uncultivated ground. S. April—May.

1. It varies in the thorns being long or short.

This is a very hardy plant and will make fences upon the bleak-est mountains, and close to the sea side, where the spray of the sea destroys almost every other shrub—it is cut to make faggots for heating ovens, which it does very soon, burning rapidly and with a great degree of heat—the ashes are used to make ley.—Team Horses may be supported by this plant if it is cut young and bruised in a mill to break the thorns.—Goats, Cows, Sheep, and Horses feed upon the tender tops.

THREADS IN TWO SETS.

294 RESTHARROW. 863 Ononis.

EMFAL. Cup with five divisions; nearly as long as the blossom. Segments strap-shaped; taper; a little bowed upwards. The lowest segment placed under the keel.

BLOSS. Butterfly-shaped.

Standard heart-shaped; scored; with the sides depressed more than usual.

Wings egg-shaped; half as long as the standard.

Keel tapering; generally longer than the wings.

CHIVES. Threads ten, united and forming a complete undivided cylinder. Tips simple.

POINT. Seedbud oblong; woolly. Shaft simple; rising upwards. Summit blunt.

S. VESS. Shell diamond-shaped; turgid; a little woolly; with one cell and two valves.

SEEDS. Few; kidney-shaped.

Corn
Arvensis

RESTHARROW, with flowers in bunches; one or two flowers standing together. Leaves growing by threes. Upper leaves solitary; branches without thorns, somewhat woolly—*In the beginning of summer it is smooth, but in the autumn it is said to become thorny.* Blossoms red; purple, or white.

Anonis non spinosa purpurea. Gerard. 1323. Park. 993. Ray's Syn. 332.

Anonis spinis carens purpurea. Bauh. pin. 389.

1. Branches ending in thorns.

Anonis spinosa flore purpureo. Bauh. pin. 389. Ray's Syn. 332. Park. 994.

Anonis, seu resta Bovis. Gerard. 1323.

Ononis spinosa. Hudson. 273.

Cammock. Petty-whin. Ground Furze.

Barren ground. P. June—August.

Notwithstanding Linnæus makes the thorny Rest-harrow only a variety of the other, and from the observations of Loezel, in the *Flora Prussica*, says it becomes thorny in the autumn; yet with us they seem to be different species; they are seldom found together, and the *Corn* RESTHARROW without thorns, hath never been observed to become thorny.

The smooth sort is sometimes pickled as Samphire—A decoction of the roots has been recommended in cases of Stone and Jaundice.—Cows and Goats eat it; Sheep are very fond of it; Horses and Swine refuse it.

REST-

Thorny
Spinosa

RESTHARROW, with spreading stems and upright Creeping branches. The upper leaves solitary, with egg-shaped props—Repeas
Flowers solitary; at the base of the leaves. Blossoms red, or almost white.

Anonis maritima procumbens, foliis hirsutis pubescentibus.

Ray's Syn. 332.

On the sea-coast. P. June—July.

295 P E A S E L I N G. 871 Orobus.

EMERAL. Cup one leaf; tubular; blunt at the base. Rim oblique; very short; with five teeth. The three lower teeth the sharpest. The two upper teeth shorter, deeper and more bluntly divided; thriving.

BLOSS. Butterfly-shaped.

Standard inversely heart-shaped; long; reflected at the end, and at the sides.

Wings two; oblong; nearly as long as the standard. Rising upwards; approaching.

Keel evidently cloven in the lower part; taper; rising upwards. Edges approaching; parallel; compressed. The bottom distended.

CHIVES. Threads ten; ascending. Nine united. Tips roundish.

POINT. Seedbud cylindrical; compressed. Shaft thread-shaped; bent upwards; upright. Summit narrow; downy from the middle to the end of the shaft, on the inner side.

S.VESS. Shell cylindrical; long; taper; with the point; ascending. One cell; two valves.

SEEDS. Many; roundish.

PEASELING. The leaves winged and spear-shaped. Props half arrow-shaped; very entire. Stems simple—drooping; but Taberosus
upright when in flower. Blossoms purple; three or four together.
Shells black; pendant.

Orobus sylvaticus, foliis oblongis glabris. Ray's Syn. 324.

Astragalus sylvestris foliis oblongis glabris. Banks. pin. 351.

Astragalus sylvaticus. Gerard. 1231.

Lathyrus sylvestris lignosior. Park. 1072.

Wood Pease. Heath Pease.

Pastures, woods and hedges. P. May.

The.

The roots when boiled are savory and nutritious: ground to powder they may be made into bread—They are held in high esteem by the Highlanders of Scotland, who chew them, as our people do Tobacco, and find that they prevent the uneasy sensation of hunger. They imagine that they promote expectoration, and are very efficacious in curing disorders of the Lungs. They know how to prepare an intoxicating liquor from them. *Pennant's Tour*, 1772. p. 310. *Ray's Hist. Plantar.* p. 916. Horses, Cows, Goats and Sheep eat it.

Wood
Sylvaticus

PEASELING. The stems branched, drooping; rough with hair—*Leaves formed of about seven pair in a wing. Shell compressed. Seeds two or three. Blossom reddish on the outside; white within, with purple lines. Five or six flowers in a cluster.*

Orob. sylvaticus nostras. Ray's Syn. 324.

English Wood Vetch. Bitter Vetch.

Woods and hedges. P. July.

296 P E A. 870 Pisum.

EMPAL. Cup one leaf; with five clefts; sharp; permanent. The two upper segments the broadest.

BLOSS. Butterfly-shaped.

Standard very broad; inversely heart-shaped; reflexed; notched at the end; with a point between.

Wings two; circular; approaching; shorter than the standard.

Keel compressed; half moon-shaped; shorter than the wings.

CHIVES. *Threads* ten; *One*, simple; superiour; awl-shaped; flat. *Nine*, awl-shaped; united from the middle downwards into a cylinder, which is cloven towards the top. *Tips* roundish.

POINT. *Seedbud* oblong; compressed. *Shaft* ascending; triangular; membranaceous; keel-shaped; the sides bent outwards. *Summit* fixed to the superiour angle; oblong; woolly.

S. VESS. *Shell* large; long; somewhat cylindrical, (or else compressed below,) the point tapering upwards.

One cell; two valves.

SEEDS. Many; globular.

PEA.

PEA. The leaf-stalks flatish on the upper side. Stems angu- Sea
lar. Props arrow-shaped; fruit-stalks supporting many flowers Maritimum
—*Blossoms pale red and purple.*

Pisum marinum. Gerard. 1250. Ray's Syn. 319.

Pisum spontaneum maritimum anglicum. Park. 1039.

On the sea-shore. P. July.

In the year 1655, during a time of great scarcity, the people
about Orford in Suffex were preserved from perishing by eating
the seeds of this plant, which grew there in great abundance
upon the sea-coast. It has been supposed that the different
sorts of garden Peas are only varieties of this, but the supposition
is not well founded.—Cows, Horses, Sheep and Goats eat it.

It affords nourishment to the Broom Moth, *Phalena Pisi.*

297 VETCHLING. 872 Lathyrus.

EMFAL. *Cup* one leaf; bell-shaped; with five shallow clefts.
Segments spear-shaped; sharp; the two upper ones
shortest, the lower one longest.

BLOSS. Butterfly shaped.

Standard inversely heart-shaped; large; reflected
at the end and at the sides.

Wings oblong; crescent-shaped; short; blunt.

Keel half a circle; as large as the wings, but
broader; opening inwardly at the middle.

CHIVES. *Threads* ten; rising upwards; nine united. *Tips*
roundish.

POINT. *Seedbud* compressed; oblong; narrow. *Shaft* up-
right, flat, and broad towards the top; sharp at the
end. *Summit* woolly; extending from the middle of
the shaft to the end, along the fore part.

S.VESS. *Shell* very long; cylindrical or compressed;
tapering to a point. *Valves* two.

SEEDS. Many; either cylindrical or nearly globular.

Obs. *The chief difference between this and the preceding Genus con-*
sists in the shaft.

* *Fruit.*

THREADS IN TWO SETS.

* *Fruit-stalks bearing only one flower.*

Yellow
Aphaca

VETCHLING. The fruit-stalks supporting one flower. Tendrils without leaves. Props betwixt heart and arrow-shaped—*The Tendrils have sometimes two spear-shaped leaves joined together at the base, but this is very rare. Blossoms yellow.*

Aphaca. Gerard. 1250. Park. 1067. Ray's Syn. 320.

Vicia lutea foliis convolvuli minoris. Baub. pin. 345.

Corn-fields. A. June—July.

The seeds both of this and of all the other species are nutritious either eaten in broth, or made into bread—

Crimson
Nitfolia

VETCHLING. The fruit-stalks supporting one flower; leaves simple: props awl shaped—*Stem upright; without tendrils. Shells long; pendant; hairy. Blossoms crimson.*

Lathyrus sylvestris minor. Baub. pin. 344.

Catanance leguminosa quorundam. Ray's Syn. 322.

Ervum sylvestre. Gerard. 1249. seu *Catanance.* Park. 1079.

Crimson Grass-vetch.

Round corn-fields. A. May.

This is a very beautiful plant and merits a place in our flower-gardens.

** *Fruit-stalks bearing more than one flower.*

Rough
Hirsutus

VETCHLING. The fruit-stalks generally supporting two or three flowers. Tendrils furnished with two leaves. Leaves spear-shaped: shells hairy: seeds rough—*Blossoms crimson, with yellow lines within.*

Lathyrus filiqua hirsuta. Ray's Syn. 320.

Lathyrus angustifolius, filiqua hirsuta. Baub. pin. 344.

Rough-coddled Chickling Vetch.

Corn-fields. A. July.

Tare
Pratenfis

VETCHLING. The fruit-stalks supporting many flowers. Tendrils furnished with two very simple leaves. Little leaves spear-shaped—*The Tendrils are sometimes divided into three parts. Props very entire; balberd-shaped. Fruit-stalks four-cornered. Blossoms yellow. Shells black and smooth.*

Lathyrus luteus sylvestris dumetorum. Ray's Syn. 320.

Lathyrus sylvestris flore luteo. Gerard. 1231. Park. 1062.

Lathyrus sylvestris luteus, foliis Viciae. Baub. pin. 344.

Tare Everlasting. Common yellow Vetchling.

Woods, hedges, meadows and pastures. P. July—August.

Horses, Cows, Sheep and Goats eat it: Swine refuse it.

VETCHLING.

VETCHLING. The fruit-stalks supporting many flowers: Narrow-leaved
Tendrils furnished with two leaves. Little leaves sword-shaped. *Sylvestris*
Stems membranaceous betwixt the joints—*Spreading wide, climbing, or drooping.* Props *axol shaped; very narrow.* Fruit-stalks
rough at the edges. Little leaves *not broader than the stems.* Blossoms
red, or white; sometimes by cultivation dark purple.

Lathyrus sylvestris major. *Baub. pin.* 344.

Lathyrus sylvestris. *Park.* 1061.

Lathyrus majoris species flore rubente et albido minore dumetorum seu Germanicus. *Ray's Syn.* 319.

Narrow-leaved Pease-everlasting.

Woods and hedges. P. July—August.

Horses, Cows, Sheep and Goats eat it.

VETCHLING. The fruit-stalks supporting many flowers: Broad-leaved
Tendrils furnished with two leaves. Little leaves spear-shaped. *Latifolius*
Stem membranaceous betwixt the joints—*Props almost balberd-shaped; broader than the stem.* Leaves *much broader than the stem.*
Blossoms *pale purple.*

Lathyrus major latifolius. *Gerard.* 1229. *Ray's Syn.* 319.

Lathyrus latifolius. *Baub. pin.* 344.

Lathyrus major perennis. *Park.* 1061.

Broad-leaved Pease-everlasting.

Woods and hedges. P. July.

VETCHLING. The fruit-stalks supporting many flowers: Marsh
Tendrils furnished with many leaves. Props spear-shaped—*Palustris*
Blossoms *blue and red.*

Lathyrus peregrinis, foliis viciæ, flore subcæruleo pallidive purpurascente. *Baub. pin.* 344.

Lathyrus viciæ formis, seu vicia Lathyroides nostras. *Ray's Syn.* 320.

Marsh chickling Vetch.

Wet pastures. P. July—August.

Horses, Cows, Sheep and Goats eat it.

298 VETCH. 873 Vicia.

EMFAL. *Cup* one leaf; tubular; upright; with five shallow clefts; sharp. The upper teeth shortest; approaching. All the teeth equal in breadth.

BLOSS. Butterfly-shaped.

Standard oval; with a broad oblong claw; notched at the end, with a sharp point in the middle; reflected at the sides, compressed and raised in a line running lengthways.

Wings two; oblong; upright; in the shape of half a heart; with an oblong claw; shorter than the standard.

Keel with an oblong cloven claw; the hollow part compressed; in the shape of half a circle; shorter than the wings.

CHIVES. *Threads* ten; nine united. *Tips* upright; roundish; with four furrows.

Honey-cup Gland short; tapering; arising from the receptacle and situated betwixt the united threads and the seedbud.

POINT. *Seedbud* narrow; compressed; long. *Shaft* thread-shaped; rather short; bent upwards. *Summit* blunt; bearded on the under-side, at the end.

S. VESS. *Shell* long; like leather; with two valves and one cell; terminated by a point.

SEEDS. Many; roundish.

* *With long fruit-stalks.*

Wood
Sylvatica

VETCH. The fruit-stalks supporting many flowers. Little leaves oval; proprs rooted—*Blossoms* white, with blue streaks.

Vicia sylvatica multiflora. Ray's Syn. 322.

Tufted Wood Vetch.

Woods and hedges. P. July—August.

Horses, Cows, Sheep and Goats eat it.

VETCH.

VETCH. The fruit-stalks supporting many flowers, lying tufted one over another : little leaves spear-shaped ; downy. Props en- Cracca tire—*Blossoms purple.*

Vicia multiflora. *Baub pin.* 345. seu spicata. *Park.* 1072.

Cracca. *Ray's Syn.* 322.

Woods and hedges. P. July—August.

Dr. Plot, in his *Nat. Hist. of Staffordshire.* p. 204, says, that this and the preceding species advance starven or weak Cattle above any thing yet known.—Horses, Cows, Sheep and Goats eat it : Swine are not fond of it.

The Vetch Loufe, *Aphis Cracca* lives upon it.

* * *Flowers at the base of the leaves ; almost sitting.*

VETCH. Shells sitting ; generally two together ; upright. Cultivated Leaves indented at the end. Props marked with a spot on the Sativa under-side—*Blossoms light and dark purple.* Teeth of the cup nearly equal.

Vicia. *Gerard.* 1227. *Ray's Syn.* 320. vulgaris sativa. *Park.* 1072.

Vicia sativa vulgaris femine nigro. *Baub pin.* 344.

1. There is a variety in which the seeds are white. *Baub pin.* 344.

Common Vetch, or Tare.

Amongst corn. A. May—June.

In Gloucestershire they sow it as pasturage for Horses, and eat it off early enough to allow of Turneps being sown the same year—The seeds are excellent food for Pidgeons.—Horses, Cows, Sheep and Goats eat it.

VETCH. Shells sitting ; solitary ; upright ; smooth. Six Wild little leaves on each leaf-stalk ; the lower ones inversely heart-shaped—*Blossoms bright red.* Shells smooth ; about nine fieds in each. Teeth of the cup nearly equal. Lathyroides

Vicia sylvestris, seu *Cracca major.* *Gerard.* 1227.

Vicia femine rotundo nigro. *Baub pin.* 345.

Aracus, seu *Cracca major.* *Park.* 1070.

1. There is a variety in which the flower is very red, and the seed-vessel long and black. *Ray's Syn.* 321.

Strangle Tare.

Sandy corn-fields and dry pastures. A. May.

Yellow
Lutea

VETCH. Shells fitting; reflected; hairy; solitary; five seeds in each. Standard of the blossom smooth—*There are varieties in which the leaves are dentate; the shells almost smooth; the props alternately entire and with three teeth.* Blossoms yellow.

Vicia sylvestris lutea filiqua hirsuta. *Bauh. pin.* 345.

Vicia luteo flore sylvestris. *Roy's Syn.* 321.

Meadows and pastures. A. June—July.

Bath
Sepium

VETCH. Shells on little foot-stalks; generally four together; upright. Little leaves egg-shaped, very entire, growing gradually smaller towards the end—*Cups rough with hair; on very short fruit-stalks.* Blossoms purple.

Vicia sepium perennis. *Roy's Syn.* 320.

Vicia sepium folio rotundiore acuto. *Bauh. pin.* 345.

Vicia maxima dumetorum. *Gerard.* 1227. *Park.* 1072.

Woods, hedges and pastures. P. May.

Horses, Cows, Goats, Sheep and Swine eat it.

299 COCKLEWORT. 892 Astragalus.

EMPAL. *Cup* one leaf; tubular; with five sharp teeth; The lower teeth gradually growing smaller.

BLOSS. Butterfly-shaped.

Standard longer than the other petals; reflected at the sides; notched at the end; blunt; straight.

Wings oblong; shorter than the standard.

Keel as long as the wings; notched at the end.

CHIVES. *Threads* ten; almost straight; nine united. *Tips* roundish.

POINT. *Seedbud* somewhat cylindrical. *Shaft* awl-shaped; ascending. *Summit* blunt.

S.VESS. *Shell* with two cells; the cells bending to one side.

SEEDS. Kidney-shaped.

Liquorice
Glycyphyllos

COCKLEWORT. Stems prostrate. Shells nearly three cornered and bent like a bow. Little leaves oval; longer than the fruit-stalks—*Blossoms pale yellow.*

Glaux vulgaris, seu Glycyrrhiza sylvestris. *Park.* 1098.

Glycyrrhiza sylvestris floribus luteo pallescentibus. *Bauh. pin.* 352.

Hedysarum glycyrrhizatum. *Gerard.* 1233.

Wild Liquorice. Liquorice Vetch.

Meadows and hedges. P. June—July.

Horses, Cows, Goats and Sheep eat it: Swine refuse it.

COCKLE-

COCKLEWORT. Stems trailing. Flowers in a sort of Purple bunch; upright. Leaves downy—*Blossoms purple.* Arenarius

Astragalus incanus parvus purpureus nostras. Ray's Syn. 325.
Tab. 12. fig. 3.

Purple mountain Milkwort.

Sandy pastures. P. July.

300 TREFOIL. 896 Trifolium.

Flowers forming a little *Rundle* or *Head*, upon a common receptacle.

EMPAL. *Cup* one leaf; tubular; with five teeth; permanent.

BLOSS. Butterfly-shaped; generally permanent; shrivelling.

Standard reflected.

Wings shorter than the standard.

Keel shorter than the wings.

CHIVES. *Threads* ten; nine united. *Tips* simple.

POINT. *Seedbud* somewhat egg-shaped. *Shaft* awl-shaped, ascending. *Summit* simple.

S.VESS. *Shell* short; with one valve, not opening; deciduous.

SEEDS. Very few. Roundish.

Obs. *Perhaps nothing is more difficult than to give an absolute and essential character to this Genus, notwithstanding the general habit and the properties of the plants which compose it shew that it is a natural one; and those who attempt to divide it, have not been able to fix any bounds to their labours.*

* *Shells naked, containing several seeds.*

TREFOIL. Shells in bunches; naked; wrinkled; sharp; two Melilot seeds in each. Stem upright—*Blossoms yellow.*

Melilotus officinarum Germanica. Baub. pin. 331.

Melilotus vulgaris. Park. 719. Ray's Syn. 331.

Melilotus Germanica. Gerard. 1205.

Common Melilot. Hart-clover. King's-clover.

Corn-fields in stiff soil. B. June—July.

This is more fragrant when dry than when green. A water distilled from the flowers possesses but little odour in itself, but it improves the flavour of other substances—Horses are extremely fond of: Cows, Goats, Sheep and Swine eat it.

F 3

TREFOIL.

Melilot. Officinalis.

Birds-foot TREFOIL. Shells naked; generally three together: eight
 Melilot: Orni- seeds in each; twice as long as the cup. Stems declining—*Blos-*
 thopodioides *soms pale purple.*

Fænum græcum humile repens, Ornithopodii filiquis brevibus crectis. Ray's Syn. 331.

Sandy places. A. June.

* * * *Shells covered. Seeds four.*

Dutch
 Hybridum

TREFOIL. Flowers in heads somewhat resembling rundles. shells with four seeds. Stem ascending—*branched, furrowed; about a foot high. Props spear-shaped; sharp; terminating in a hair. Little leaves egg-shaped; sharp; serrated, and toothed. Fruit-stalks not very long, but jointed. Receptacle egg-shaped, concave. Chaff spear-shaped; narrow; very sharp; Blossoms gaping.*

It is very probable that this plant was at first produced by the dust of the sixth species fertilizing the seedbud of the fourth species.

Pastures. P. May—September.

White
 Repens

TREFOIL. Flowers in heads, somewhat resembling rundles. Shells with four seeds. Stem creeping—*Undivided; cylindrical, about a span long. Props round; blunt. Little leaves round; very blunt. Fruit-stalks very long. Receptacle narrow; solid. Chaff egg-shaped; oblong; blunt. Blossoms white. The leaves stand upright against rain.*

Trifolium pratense album. Bauh. pin. 327. Park. 1110. Ray's Syn. 327.

Trifolium minus pratense, flore albo, seu 2. Gerard. 1185.
 Meadows and pastures. P. May—September.

Horses, Cows and Goats eat it; Sheep are not fond of it: Swine refuse it.

* * * *Cups woolly.*

Subterranean
 Subterraneum

TREFOIL. Heads woolly; five flowers in each: with a bushy substance in the middle; reflected; rigid; involving the seedvessel—*Shells frequently under the surface of the earth. Blossoms white.*

Trifolium pumilum supinum, flosculis longis albis. Ray's Syn. 327.

Barren pastures. A. May.

TREFOIL.

TREFOIL. Flowers in rather woolly spikes, inclosed by op- Honeyfuckle posite membranaceous props. Blossoms of one petal—*The spikes* Pratenſe of flowers are fitting betwixt two opposite fitting leaves, whose membranaceous props expanding form a sort of common enpalement. The Cup of the fruit is furnished with five awns or bristles, the four uppermost of which are expanding, but the fifth and lowermost stands upright. Blossoms red; purple; or yellowish white.

Trifolium pratense. Gerard. 1185. purpureum. *Baub. pin.* 327. *Ray's Syn.* 328.

Trifolium pratense purpureum vulgare. *Park.* 1110.

1. Small purple Trefoil, with heart-shaped leaves. *Ray's Syn.* 328. *Tab.* 13. *fig.* 1

2. Large cultivated purple Trefoil. *Ray's Syn.* 328.

Clover

Purple or Honey-fuckle Trefoil. 2 Clover.

Meadows and pastures. P. May—September.

The flowering heads are used in Scandinavia to dye woollen cloth green. With alum they give a light, with copperas a dark green—The variety (2) engages much of the Farmers attention in modern husbandry: it is either grazed upon the ground, or made into hay. Swine, Goats, Sheep, Horses and Cows are all fond of it.

TREFOIL. Flowers in somewhat globular spikes; terminat-Purple ing; woolly. Stem upright. Leaves spear-shaped and a little Alpetre serrated—Blossoms a deep purple. This is distinguished from the foregoing species in having two terminating heads of flowers, whereas that hath but one. In this the Props are green; in that they are shining, with red veins. In this the uppermost props are spear-shaped on each side, but in that somewhat egg-shaped.

Trifolium medium. *Hudson.* 284.

Trifolium purpureum majus, foliis longioribus et angustioribus, floribus saturationibus. *Ray's Syn.* 328.

Trifolium montanum purpureum majus. *Baub. pin.* 328.

Long-leaved purple Trefoil.

Hilly countries and high pastures. P. July.

Hares foot
Arvense

TREFOIL. Flowers in woolly oval spikes. The teeth of the cups bristle-shaped; woolly: equal—*Longer than the blossom; which is pale red, with a bloody spot on the inner side of each of the wings.*

Trifolium arvense humile spicatum, seu Lagopus. Baub. pin. 328. Ray's Syn. 330

Lagopus vulgaris. Park. 1107.

Lagopodium five pes Leporis. Gerard. 1192.

In sandy ground and on the sea-shore. A. July—August.

1. A small elegant variety growing on the sea-coast observed by Dillenius who gives a fig. and a description of it in *Ray's Syn. 330. T. 14. F. 2*

Lagopus perpusillus supinus perelegans maritimus. Ph. Br. Ray's Ibid.

Teasel-headed
Maritimum

TREFOIL. Flowers in woolly globular spikes; segments of the flower-cup equal; open. Stem ascending. Leaves wedge-shaped; hairy. *Huds. Fl. Ang. 284—Blossoms, small, purple or whitish.*

Trifolium stellatum glabrum. Gerard. 1208. Ray's Syn. 329.

In salt marshes, and meadows near the sea-shore. P. July.

Obs. Linnaeus has a species (the Stellatum) which corresponds pretty nearly with Hudson's description, but they appear to be distinct plants.

Yellow-flow-
ered
Ochroleucum

TREFOIL. Flowers in woolly spikes. Stem upright; downy. Lower leaves inversely heart-shaped—*Upper leaves narrow; very entire. Spikes on fruit-stalks; oblong. The lowermost tooth of the cup the longest. Blossoms the colour of brimstone.*

Trifolium pratense hirsutum majus, flore albo sulphureo. Ray's Syn. 328.

Dry pastures. B. May—June.

Oval-headed
Scabrum

TREFOIL. Flowers in heads; sitting; lateral; egg-shaped. Segments of the cups unequal; stiff; reflected—*Stems but little branched. Little leaves oval; rather thick; somewhat scalloped at the edge. Blossoms white; slender; as long as the cup.*

Trifolium capitulo oblongo aspero. Baub. pin. 329.

Trifolium flosculis albis, in glomerulis oblongis asperis, cauliculis proxime adnatis. Ray's Syn. 329.

On Chalk-hills. A. May—June.

Round-headed
Glomeratum

TREFOIL. Flowers in hemispherical rigid heads. Cups scored; open; equal—*Blossoms pale red.*

Trifolium cum glomerulis ad caulium nodos rotundis. Ray's Syn. 329.

Sandy ground. A. June.

TREFOIL.

TREFOIL. Flowers in egg-shaped, almost lateral, sitting heads. Cups scored, rounded—*Blossoms pale purple.* Knotted Striatum

Trifolium parvum hirsutum, floribus parvis dilute purpureis, in glomerulis mollioribus et oblongis; semine magno. *Ray's Syn.* 329. Tab. 12. fig. 3.

Dry pastures. A. June.

**** *Cups bladder-shaped.*

TREFOIL. Flowers in roundish spikes. Cups bladder-shaped; with two teeth; reflected. Stems creeping—*Fruit-stalks longer than the leaves.* Stems sending out roots. Cups a little downy. Blossoms whitish; but sometimes with a reddish tinge. *Fragiferum*

Trifolium Fragiferum. *Gerard.* 1208. *Ray's Syn.* 329.

Trifolium Fragiferum friscum. *Bauh. pin.* 329. *Park.* 1109.

Meadows and moist pastures. P. August.

Cows eat it.

***** *Standard of the blossom bent inwards.*

TREFOIL. Flowers in oval tiled spikes. Standards of the Hop blossoms bent downwards; permanent. Cups not hairy. Stem Agrarium upright—*Cups before flowering a little hairy.* Blossoms yellow.

Trifolium pratense luteum, capitulo lupi, vel Agrarium. *Bauh. pin.* 328. *Ray's Syn.* 330.

Trifolium luteum minimum. *Gerard.* 1186. *Park.* 111.

Gravelly soil. A. June.

Horses, Cows, Sheep and Goats eat it.

TREFOIL. Flowers in oval tiled spikes. Standards of the blossoms bent downwards; permanent. Stems trailing—*Flowers about ten or twelve.* Leaves not scored. Stems long and lying entirely upon the ground. Blossoms yellow. *Trailing Procumbens*

Trifolium lupulinum alterum minus. *Ray's Syn.* 330. Tab. 14. Fig. 3.

Decumbent Trefoil.

Meadows and pastures. P. May—August.

Horses, Cows, Sheep, and Goats eat it.

TREFOIL.

Small
Filiforme

TREFOIL. Flowers in spikes somewhat tiled. Standards of the blossoms bent downwards; permanent. Cups supported on little foot-stalks. Stems trailing—*Little leaves notched at the end, scored.* Fruit-stalks *thread-shaped: longer than the leaves; not much thicker than a horse-hair; three or five distinct florets in each little head.* Blossoms yellow.

Trifolium lupulinum minimum. Ray's Syn. 331. Tab. 14. fig. 4.

Sandy pastures. A. May—June.

The flowers of all the species dried and powdered make bread, which in times of scarcity hath preserved the inhabitants of Scotland from perishing—the leaves of all the species fold up before rain.

The plantain fritillary Butterfly, *Papilio Cinxia*, and the Black Tussock Moth, *Phalena Fajetina*, live upon the different species.

301 SAINTFOIN. 887 Hedysarum.

EMPAL. Cup one leaf; with five shallow clefts. Segments awl-shaped; upright; permanent.

BLOSS. Butterfly-shaped; scored.

Standard reflected and compressed; egg-shaped but oblong; notched at the end; long.

Wings oblong; narrower than the other petals; straight.

Keel straight; compressed; broadest at the outer part, and almost square; cloven from the base to the broader part.

CHIVES. Threads ten; with an angular bend. Tips roundish; compressed.

POINT. Seedbud slender; compressed; strap-shaped; Shaft awl-shaped; bent like the chives. Summit undivided.

S. VESS. Shell with roundish joints; compressed; with two valves, and one seed.

SEED. Kidney-shaped; solitary.

Obs In the only British species the shell consists of one joint, but in some of the foreign species it is formed of several joints connected together like the links of a chain.

SAINTFOIN.

SAINTFOIN. Leaves winged; shells prickly, containing Cocks-head a single seed. The wings of the blossom shorter than the cup. *Onobrychis* Stem long—*Blossoms red.*

Onobrychis, seu caput Gallinaceum. Gerard. 1243. Ray's Syn. 327.

Onobrychis vulgaris. Park. 1032.

Onobrychis foliis Viciæ, fructu echinato major. Bauh. pin. 350.

Saintfoin. Cocks-head.

Meadows and pastures, particularly in chalky soils. P. July.

The following varieties arise in cultivation.

1. White blossomed.
2. Blue ditto.
3. Purple ditto.
4. Striped ditto.
5. Long-leaved hoary.

This is cultivated like Clover for feeding cattle, and is particularly advantageous in dry hilly situations, and chalky soils.

302 BIRDSFOOT. 884 Ornithopus.

Rundle simple.

EMPAL. Cup one leaf; tubular; Rim with five teeth; nearly equal; permanent.

BLOSS. Butterfly-shaped.

Standard inversely heart-shaped; entire.

Wings egg-shaped; straight; hardly so large as the standard.

Keel compressed; very small.

CHIVES. *Threads* ten; nine united. *Tips* simple.

POINT. *Seedbud* narrow. *Shaft* brittle-shaped; ascending.

Summit a dot at the end of the shaft.

S. VESS. *Shell* awl-shaped; cylindrical; bent like a bow; separated into joints; opening joint by joint.

SEEDS. Solitary, roundish.

BIRDSFOOT. Leaves winged; shells crooked—*Blossoms* Common yellow; purple, and white. The plant is smooth. The Leaves on Perpuillus leaf-stalks.

Ornithopodium minus. Gerard. 1241. Bauh. pin. 350.

Ornithopodium radice nodosa. Park. 1093.

Ornithopodium radice tuberculis nodosa. Bauh. pin. 350.

Ornithopodium majus. Bauh. pin. 350. Park. 1093.

In gravelly land. P. May—August.

303 HORSE-

THREADS IN TWO SETS.

303 HORSESHOE. 885 Hippocrepis.

Rundle simple.**EMPAL.** *Cup* one leaf; with five teeth. The two upper teeth not so deeply divided, and nearly joined; permanent.**BLOSS.** Butterfly-shaped.*Standard* heart-shaped; with a claw as long as the cup.*Wings* oblong egg-shaped; blunt.*Keel* crescent-shaped; compressed.**CHIVES.** *Threads* ten; nine united; ascending. *Tips* simple.**POINT.** *Seedbud* slender; oblong; ending in an awl-shaped *Shaft*; ascending. *Summit* undivided.**S.VESS.** *Shell* compressed; membranaceous; very long; crooked; deeply indented along one seam into roundish hollows, so that it appears as if composed of many three-edged joints connected together by the upper seam.**SEEDS.** Oblong; crooked; one in each joint.**OBS.** *The essential character of this genus consists in the Shell being shaped like a horse-shoe.*Tufted
Comosa**HORSESHOE.** Shells on fruit-stalks crowded together; bowed; serpentine on the outer edge—*Blossoms* yellow.*Ferrum Equinum Germanicum*, filiquis in summitate. *Baub. pin.* 349. *Ray's Syn.* 325.*Ferrum Equinum comosum.* *Park.* 1091.*Hedysarum Glychirrizatum.* *Gerard.* 1233.

Tufted Horse-shoe Vetch.

On Chalky Hills. P. July.

304 S N A I L - S H E L L. 399 Medicago.

EMPAL. *Cup* one leaf; straight; cylindrical, but somewhat bell-shaped; with five shallow clefts; taper; equal.

BLOSS. Butterfly-shaped.

Standard egg-shaped; entire; bent inwards at the edges; the whole petal reflected.

Wings oblong egg-shaped: fixed to the appendage of the keel; approaching at the sides under the keel.

Keel oblong; cloven; expanding; blunt; bent downwards by the pointal, and with the standard forming a gaping mouth.

CHIVES. *Threads* ten; united almost the whole length. *Tips* small.

POINT. *Seedbud* standing on a little foot-stalk; oblong; bowed inwards; compressed; inclosed by the threads; bursting out of the keel and pressing back the standard; ending in a *shaft* which is short; awl-shaped; generally straight. *Summit* terminating; small.

S. VESS. *Shell* compressed; long; bent inwards.

SEEDS. Many; kidney-shaped, or angular.

Obs. *The shell in some species is rolled up spirally like a snail-shell; in others it is bent like a bow or a sickle.*

S N A I L - S H E L L. Fruit-stalks in bunches; shells twisted in Lucern a wreath: Stem upright; smooth. *Leaves* numerous; serrated; *Sativa* three on each leaf-stalk. *Blossoms* purple.

Meadows and pastures. P. June—July.

The modern writers upon husbandry strongly recommend the cultivation of this plant for the purpose of feeding cattle, but it is not yet generally adopted.

S N A I L - S H E L L. Fruit-stalks in bunches. Shells crescent- Yellow shaped; stem prostrate—*Blossoms* yellow. Falcata

Medica sylvestris. Ray's Syn. 333.

Medica frutescens flavo flore clusii. Park. 1114.

Trifolium luteum filiqua cornuta, Gerard. 1191.

Trifolium luteum sylvestre filiqua cornuta, et medica frutescens.

Barb. pin. 330.

Yellow Medick. Butterjags.

Roads, and foot-ways in Norfolk. P. July.

In hot, dry, barren sandy places it is well worth the trouble of sowing for the purpose of making hay. A practice long since adopted in some parts of Sweden.—Cows, Horses, Goats, and Sheep eat it.

S N A I L -

Melilot
Lupulina

SNAIL-SHELL. Flowers in oval spikes. Shells kidney-shaped ; one seed in each. Stems trailing—*Shells scored ; wrinkled ; set with stiff hairs.* Blossoms yellow.

Trifolium luteum lupulinum. Gerard. 1186. Ray's Syn. 331.

Trifolium montanum lupulinum. Park. 1105.

Trifolium pratense luteum, capitulo brevior. Baub. pin. 328.

Melilot Trefoil.

Corn-fields and sandy pastures. A. May—August.

Cows, Horses, Goats and Sheep eat it ; but it is less grateful to them than the other species.

Wreathed
Polymorpha

SNAIL-SHELL. With shells resembling a snail-shell : props toothed : stem spreading.—

The varieties of this species are often cultivated in our flower gardens for the sake of the curiously formed seed-vessels, which bear some resemblance to green Caterpillars, Snail-shells, Hedge-hogs, &c. The following are the principal varieties.

1. Clover
Arabica

With prickly shells ; generally three together. Little leaves heart-shaped—*With a brown spot upon each.* Props fringed. Blossoms yellow.

Trifolium cochleatum folio cordato maculato. Baub pin. 329. Ray's Syn. 333.

Trifolium Cordatum. Gerard. 1190.

Meadows, dry pastures ; and near the sea-shore. A. May.

2. Small
Minima

With prickly shells : prickles hooked ; alternate. Props entire—*Shells several together.*

Trifolium echinatum fructu minore. Baub. pin. 330.

Medica echinata minima. Ray's Syn. 333.

Smallest Hedge-hog Trefoil.

In sandy places. A. May.

3. Soft
Mollis

With shells rather compressed, and covered with softish prickles.

Trifolium cochleatum modiolis spinosis. Ray's Syn. 333.

Hedge-hog Trefoil with small fruit like the segment of a cone, or nave of a cart-wheel.

Near the sea-shore. A.

4. Sea
Maritima

With prickly shells ; and the upper leaves covered with soft hair.

Medica marina supina nostras foliis ad summos ramulos villosis. Ray's Syn. 334.

Medicæ marinæ spinosa species ? Gerard. 1200.

Medica marina major et minor spinosa ? Park. Theat. 1115.

On the sea-shore. A.

5. Corn
Zuccensis

With rough shells covered with small tubercles ; without prickles ; slightly compressed : about ten growing on a fruit-stalk.

Medica polycarpus fructu minore compresso scabro. Ray's Syn. 333.

Trifolium cochleatum polycarpon five medica racemosa. Park. 1114.

In corn-fields. A. May.

305 T A R E. 874 Ervum.

EMFAL. *Cup* with five divisions ; nearly as long as the blossom. *Segments* narrow ; tapering ; nearly equal.

BLOSS. Butterfly-shaped.

Standard flat ; a little reflected ; circular ; large.

Wings blunt ; half as long as the standard.

Keel shorter than the wings ; tapering.

CHIVES. *Threads* ten ; rising upwards ; nine united.

Tips simple.

POINT. *Seedbud* oblong. *Shaft* simple ; rising upwards ;

Summit blunt ; without a beard.

S. VESS. *Shell* oblong ; blunt ; cylindrical ; with protuberances formed by the seeds.

SEEDS. Four ; nearly round.

Obs. *The chief difference betwixt this Genus and the VETCH consists in the summit. In the Smooth TARE the cup is cut into five unequal teeth ; and the summit when viewed through a Microscope appears bearded, so that is ought to have been arranged with the Vetches.*

TARE. With about two flowers on a fruit-stalk. Seeds globular ; four in each shell—*Little leaves about ten ; generally alternate. Fruit-stalks hair-like ; very slender ; supporting one or two flowers. Flowers small ; violet or blood coloured. Shell oblong oval ; smooth.* Smooth. Tetraspermum

Vicia segetum, singularibus filiquis glabris. Bauh. pin. 345.

Cracca minor filiquis singularibus, flosculis cæruleiscentibus.

Ray's Syn. 322.

Corn-fields. A. June.

Horses, Cows, Goats and Sheep eat it.

TARE. With many flowers on a fruit-stalk. Seeds globular, two in each shell—*Blossoms blue and white.* Hairv Hirsutum

Vicia segetum cum filiquis plurimis hirsutis. Bauh. pin. 345.

Vicia sylvestris, seu cracca minima. Gerard. 1028.

Arachus, seu cracca minor. Park. 1070.

Cracca minor. Ray's Syn. 322.

Corn-fields. A. June.

Horses, Cows, Goats and sheep eat it.

TARE.

Spring
Solonienſe

TARE. The fruit-stalks supporting about two flowers, with awns. Leaf-stalks tapering. Little leaves blunt—*Stem seven or eight inches high; a little downy.* Fruit-stalks longer than the leaves; terminated by a tendril, under which are one or two flowers on little fruit-stalks; alternate. Blossoms purple.

Vicia minima præcox Parisiensium. Ray's Syn. 321.

In chalky soils. A. April—May.

306 C L A V E R. 897 Lotus.

Rundle simple.

EMPAL. Cup one leaf; cylindrical; with five shallow clefts.

Teeth sharp; equal; upright; permanent.

BLOSS. Butterfly-shaped.

Standard circular; bent downwards; with an oblong concave claw.

Wings circular; shorter than the standard; broad; approaching upwards.

Keel hunched in the lower part; closed above; taper; ascending; short.

CHIVES. Threads ten; ascending; nine united; rather broad at the ends. Tips small; simple.

POINT. Seedbud cylindrical; oblong. Shaft simple; ascending. Summit a dot, bending inwards.

S. VESS. Shell cylindrical; stiff and straight; full; longer than the cup; with two valves, one cell, and as if transversely divided into many.

SEEDS. Many; cylindrical.

Birds-foot

Corniculatus

CLAVER. Flowers in depressed heads. Stems drooping. Shells cylindrical; expanding—*Blossoms yellow.* Seeds numerous.

Lotus corniculata glabra minor. Ray's Syn. 334.

Lotus, seu melilotus pentaphyllos minor glabra. Bauh. pin. 332.

Trifolium filiquosum minus. Gerard. 1191.

Birds-foot Trefoil.

1. Leaves narrow. Stems almost woody. Ray's Syn. 334.

Lesser, bushy, narrow-leaved Birds-foot Trefoil.

2. Flowers large; yellow; shining. Bauh. pin. 332.

Greater Birds-foot Trefoil.

3. A larger variety, but little hairy. Ray's Syn. 334.

4. Leaves white with down on the under surface. Ray's Syn. 334.

Hedges, pastures. 2, in woods and moist meadows: 4, in Chalk-pits. P. June—August.

In Hertfordshire it is cultivated as pasturage for sheep—The flowers become greenish when dried, and in this respect they resemble the flowers of the plants that produce Indigo.—Cows, Goats and Horses eat it; Sheep and Swine are not fond of it.

The Skipping Thrips, *Thrips Phlyctopus* is found upon it.

CLASS

C L A S S XVIII.

THREADS in many SETS.

THIS Class comprehends the Plants whose Flowers have the Chives united by the Threads into three or more Sets.

Order IV. Many Chives.

307 TUTSAN. - - *Cup* with five divisions : beneath.
Bloss : five Petals. *Shafts* one,
three or five. *Capsule* with one
or more Cells.

307 TUTSAN. 902 Hypericum.

EMPAL. *Cup* with five divisions. *Segments* somewhat egg-shaped; concave; permanent.

BLOSS. *Petals* five; oblong egg-shaped; blunt; expanding; bending from the left to the right,

CHIVES. *Threads* numerous; hair-like; connected at the base into three or five sets. *Tips* small.

POINT. *Seedbud* roundish. *Shafts* three (sometimes one or two or five) simple; distant; as long as the chives. *Summits* simple.

S. VESS. *Capsule* roundish; with as many cells as there are shafts.

SEEDS. Several; oblong.

Park-leaves
Androsæmum TUTSAN. Flowers with three shafts. Fruit like a berry. Stem somewhat woody, two edged—*Blossoms* yellow.
Hypericum maximum Androsæmum vulgare dictum. Ray's Syn. 343.

Androsæmum vulgare. Park. 575.

Androsæmum maximum stutescens. Baub. pin. 250.

Clymenum Italarum. Gerard. 548.

Park-leaves. St. John's-wort.

Woods and moist hedges. P. July.

This plant is not uncommon in our flower-gardens.

St. Peter's
Quadrangu-
lum TUTSAN. Flowers with three shafts. Stem four-cornered; herbaceous—*Blossoms* yellow.
Hypericum Ascyron dictum, Caule quadrangulo. Ray's Syn. 344.
Ascyron. Gerard. 542. vulgare. Park. 575.
St. Peter's-wort
Moist hedges. P. July.
Cows, Goats and Sheep eat it; Horses and Swine refuse it.

St. John's
Perforatum TUTSAN. Flowers with three shafts. Stem two edged; Leaves blunt; with semi-transparent dots—*Flowers* open at night as well as in the day. *Blossoms* yellow. When cultivated, the dots on the leaves are sometimes red. *Tips* double; yellow; furnished with a small black gland.

Hypericum. Gerard. 540. Ray's Syn. 342. vulgare. Baub. pin. 279. Park. 572.

Saint John's wort.

In rough uncultivated grounds and hedges. P. July.

This

This plant has long held a place in the Medicinal catalogues, but its use is very much undetermined—The semi-transparent dots on the leaves are the receptacles of an essential oil—The leaves given in substance are said to destroy worms—The flowers tinge spirits and oils of a fine purple colour, which is probably derived from the little glands upon the tips, and upon the edges of the petals.—Cows, Goats and Sheep eat it; Horses and Swine refuse it.

TUTSAN. Flowers with three shafts; at the base of the Trailing leaves; solitary. Stems two-edged; prostrate; thread-shaped. Humifusum. Leaves smooth.—*Greatly resembling the preceding species; but the leaves have no transparent dots.* Blossoms yellow.

Hypericum minus supinum. Park. 572. Ray's Syn. 343.

Hypericum supinum glabrum. Gerard. 541. Baub. pin. 279.

1. Leaves growing by threes.

Gravelly soil. P. July.

TUTSAN. Flowers with three shafts. Cups serrated, and Mountain glandular. Stem cylindrical; upright. Leaves egg-shaped; Montanum smooth. *Floral leaves at the top of the Stem, small, and fringed with glands.* Blossoms yellow.

Hypericum elegantissimum non ramosum, folio lato. Ray's Syn. 343.

Ascyron seu Hypericum bifolium glabrum non perforatum. Baub. pin. 280.

Mountain St. John's-wort.

Woods and rough hilly ground. P. July.

TUTSAN. Flowers with three shafts. Cups serrated, and Hairy glandular. Stem cylindrical; upright. Leaves egg-shaped; a Hirsutum little downy—*with semi-transparent dots.* Flowers closing at night. Blossoms yellow.

Androsæmum hirsutum. Baub. pin. 280.

Hairy St. John's-wort.

1. Leaves oblong egg-shaped; on short leaf-stalks. Segments *Oblong.* of the cup oblong; sharp.

Hedges and rough grounds. P. July.

Sheep eat; Horses refuse it.

Marth
Elodes

TUTSAN. Flowers with three shafts. Stem cylindrical ; creeping. Leaves circular ; woolly—*Blossoms yellow.*

Afcyron fupinum villofum paluttre. Bauh. pin. 280. Park.

574. *Ray's Syn. 344.*

Afcyron fupinum elodes Clufii. Gerard. 542.

Marth St. John's wort.

In putrid bogs and amongst Peat. July.

Upright
Pulchrum

TUTSAN. Flowers with three shafts. Cups serrated, and glandular. Leaves heart-shaped ; smooth ; with semi transparent dots. Stem cylindrical—*Blossoms yellow, with a tinge of red.*

Hypericum minus erectum. Bauh. pin. 279.

Hypericum pulchrum Tragi. Ray's Syn. 342.

Hypericum quintum feu pulchrum Tragi. Gerard. 540.

Upright St. John's-wort.

Woods, hedges and heaths. P. July.

CLASS.

C L A S S. XIX.

THIS Class comprehends those Flowers which Mankind have very generally agreed to call *Compound*. The Essential character of a COMPOUND FLOWER consists in the Tips being united so as to form a Cylinder, and a single Seed being placed upon the Receptacle under each Floret. The DANDELION and the THISTLE are compound Flowers; that is, each of these Flowers are composed or compounded of a number of smaller Flowers, called FLORETS.

Character of the FLOWER.

It is composed of many Florets, sitting upon a COMMON RECEPTACLE, and inclosed by one COMMON EMPALEMENT. The

Surface of the RECEPTACLE is either concave; flat; convex; pyramidal; or globular. It is either

Naked, that is, marked only with little dots, as in DANDELION; or

Hairy; covered with soft upright hairs as in THISTLE; or

Chaffy; beset with awl-shaped, narrow, compressed, upright chaffy substances, separating the Florets, as in CHAMOMILE or YARROW.

The COMMON EMPAL. is a Cup which surrounds the Florets and the common Receptacle. (*When the Florets have blossomed it contracts; but when the Seeds are ripe it expands and falls back.*) It is either

Simple; when formed with only a single row of scales or Leaves.

Tiled; when the scales are numerous, the outer ones gradually growing shorter and lying upon the inner ones, like the Tiles upon a House.

Leafy; when a single row of equal and longer segments stands next to the florets, and another row of very small scales surrounds the base of those segments.

TIPS UNITED.

The structure of the FLORETS that compose a compound flower, will be best understood by pulling to pieces the flower of a Thistle, or of Dandelion, or of the Sunflower, and comparing the Florets with the following

Natural Character of a FLORET.

- ENPAL. None but the crown of the seed sitting upon the top of the seedbud.
- BLOSS. One petal. *Tube* very slender and long; sitting upon the seedbud. (*it is either*)
1. TUBULAR. *Border* bell-shaped, with five clefts. *Segments* reflected and expanding.
 2. NARROW. *Border* strap-shaped; flat; turned outwards; lopped at the end, which is either entire, or marked with three or five teeth.
 3. NONE. *Border* wanting; and sometimes the petal is altogether deficient.
- CHIVES. *Threads* five; hair-like; very short; fixed to the neck of the blossom. *Tips* five; upright; strap-shaped; connected at the sides so as to form a hollow cylinder, as long as the border of the blossom, and marked at the top with five teeth.
- POINT. *Seedbud* oblong; standing under the blossom upon the common receptacle. *Shaft* thread-shaped; upright; as long as the chives; passing through the hollow cylinder formed by the tips. *Summit* cloven; the segments rolled back and expanding.
- S. VESS. Properly speaking, none; though in some foreign Genera there is a sort of leathery crust over the seed.
- SEED. Single; oblong; frequently with four edges: generally narrower towards the base.
- Crowned with a FEATHER, which either consists of many Undivided hair-like spokes, placed in a circle; or of spokes that are Branched or radiated. This Feather again is either supported upon a little Pillar, or else sitting immediately upon the seed.
- - - with a small Cur which hath generally five teeth, and is permanent.
- - - neither with a Cup nor with a feather.

Obs. In examining the minuter Florets, the dissecting Needles, and the Botanic Microscope, will be found extremely useful.

The

The disposition of the Chives and Pointals varying, occasions the following

Distinctions of Florets.

- | | | |
|----------------|---|--|
| Bross. Tubular | { | 1. Furnished with chives and a pointal. |
| | | 2. Furnished with chives, but no pointal. |
| | | 3. Furnished with a pointal, but no chives. |
| | | 4. Without either chives, pointal or summit. |

- | | | |
|---------------|---|--|
| Bross. Narrow | { | 1. Furnished with chives and a pointal. |
| | | 2. Furnished with chives, but no pointal. |
| | | 3. Furnished with a pointal, but no chives. |
| | | 4. Without either chives, pointal or summit. |

From considering the different structure of the Florets, it is evident that the compound Flowers may be composed either

- Of {
1. Florets *Tubular* in the center, with chives and pointals. *Tubular* in the circumference, with chives and pointals.
 2. Florets *Tubular* in the center, with chives and pointals. *Tubular* in the circumference, with only pointals.
 3. Florets *Tubular* in the center, with chives and pointals. *Tubular* in the circumference, with neither chives nor pointals.
 4. Florets *Tubular* in the center with chives and pointals. *Narrow* in the circumference, with chives and pointals.
 5. Florets *Tubular* in the center, with chives and pointals. *Narrow* in the circumference, with only pointals.
 6. Florets *Tubular* in the center, with chives and pointals. *Narrow* in the circumference, with neither chives nor pointals.
 7. Florets *Tubular* in the center with chives and pointals. *Pointals* in the circumference without blossoms.
 8. Florets *Tubular* in the center, with chives and imperfect pointals. *Pointals* in the circumference without blossoms.
 9. Florets *Narrow* in the center, with chives and pointals. *Narrow* in the circumference with chives and pointals.

The

The ORDERS therefore, according to the system we have adopted, will be as follows.

- I. *Chives and Pointals equal.* That is, when all the Florets are furnished with Chives and Pointals. (9. 1. 4. of the preceding table.)
- II. *Superfluous Pointals.* That is, when the Florets in the center have both Chives and Pointals; but the florets in the circumference have only Pointals. (9. 5. 7. of the preceding table.)
- III. *Barren Florets.* That is, when the Florets in the center have both Chives and Pointals; but the Florets in the circumference neither. (3. 6. of preceding table.)
- IV. *Necessary Pointals.* That is, when the Florets in the center have both Chives and Pointals, but from some defect in the Pointals produce no Seed. The Florets in the circumference have Pointals only and produce perfect Seeds. (8 of the preceding table.)
- V. *Separated Florets.* That is when several Cups filled with florets, are contained in another larger cup, so as to form but one flower.
- VI. *Flowers simple.* That is, when there is only one flower in a cup, and these not inclosed by another larger cup so as to form but one flower.

OBSERVATIONS.

This is a Natural Class except the last Order, which from the principles of the System is necessarily introduced here.

The plants of this Class are supposed to have various specific virtues. Most of them are bitter. None of them are poisonous, except perhaps the strong scented LETTUCE when growing in shady situations.

The elasticity of the Empalement in the OXTONGUE, THISTLE, and many other Genera, is too remarkable to pass unnoticed by the slightest observer. It seems as if the expansion of the florets first burst the Empalement open, and when these wither, it closes again. the downy hairs that crown the Seeds, before upright, now begin to expand, and by this expansion again open the leaves of the Empalement, and bend them quite back. The Seeds now scape, and the Empalement becoming dry and withered, no longer retains its elastic power.

The hairy appendages of the Seeds are very properly called FEATHERS; for by means of these, the Seeds are waisted about in the air and disseminated far and wide. The structure of these feathers deserve our notice: there is hardly a child that is insensible to their beauty in the DANDELION.

CLASS

C L A S S X I X.

T I P S U N I T E D.

Order I. Chives and Pointals equal.

* *All the Florets NARROW.*

- 308 ENDIVE. - *Receptacle* a little chaffy. *Feather* with about five teeth. *Cup* double.
- 309 HAWKSEYE, *Receptacle* chaffy. *Feather* somewhat downy. *Cup* tiled.
- 310 GOATSBEARD, *Receptacle* naked. *Feather* downy. *Cup* simple.
- 311 OXTONGUE. *Receptacle* naked. *Feather* downy. *Cup* double.
- 312 DANDELION. *Receptacle* naked. *Feather* downy. *Cup* tiled with flexible scales.
- 313 SOWTHISTLE. *Receptacle* naked. *Feather* hairy. *Cup* tiled, and hunched.
- 314 SUCCORY. *Receptacle* naked. *Feather* hairy. *Cup* double; with scales of different shapes.
- 315 IVYLEAF. - *Receptacle* naked. *Feather* hairy. *Cup* double; containing about five florets.
- 316 LETTUCE. - *Receptacle* naked. *Feather* hairy. *Cup* tiled; scales skinny at the edge.
- 317 HAWKWEED. *Receptacle* naked. *Feather* hairy. *Cup* tiled; egg shaped.

318 NIPPLE-

- 318 NIPPLEWORT. *Receptacle* naked. *Feather* none. *Cup* double.
 319 YELLOWEYE. *Receptacle* naked. *Feather* not hairy. *Cup* nearly equal.

* * *Flowers in globular heads.*

- 320 TWINGEWORT. *Cup* radiate. The *Rays* coloured.
 321 BURDOCK. - *Cup* with the scales bent inwards at the points, and hooked.
 322 THISTLE. - *Cup* with thorny scales; distended. *Receptacle* hairy.
 323 ARGENTINE. *Cup* with thorny scales; distended; *Receptacle* like a honey-comb.
 324 SAWWORT. *Cup* with scales tiled; sharp, but without thorns; nearly cylindrical.

* * * *All the Florets* TUBULAR.

- 325 LIVERHEMP. *Receptacle* naked. *Feather* downy. *Cup* tiled. *Pointal* very long.
 326 GUDWORT. *Receptacle* chaffy. *Feather* chaffy. *Cup* tiled.
 327 DOUBLETOOTH. *Receptacle* chaffy. *Feather* with awns. *Cup* tiled,

† *Common Groundsel.* † *Common Tansy.*

Order II. Superfluous Pointals.

* *All the florets* TUBULAR.

- 328 SOUTHERNWOOD. *Receptacle* almost naked. *Feather* none. *Blossoms* in the circumference none.
 329 TANSEY. *Receptacle* naked. *Feather* only a sort of border. *Blossoms* of the circumference with three clefts.
 330 SPIKENARD. *Receptacle* naked. *Feather* hairy. *Blossoms* of the circumference with three clefts.
 331 CATSFOOT. *Receptacle* naked. *Feather* downy. *Cup* with skinny concave scales.

† *Common Groundsel.*

* * *Florets*

* * *Florets of the circumference* NARROW.

- 332 DAISIE. - *Receptacle* naked. *Feather* none. *Cup* simple, with equal scales.
- 333 FEVERFEW. *Receptacle* naked. *Feather* none. *Cup* tiled with sharp scales.
- 334 GOLDINGS. - *Receptacle* naked. *Feather* none. *Cup* with the inner scales membranaceous.
- 335 ELECAMPANE. *Receptacle* naked. *Feather* hairy. *Tips* with two bristles at the base.
- 336 FLEABANE. - *Receptacle* naked. *Feather* hairy. *Blossoms* in the circumference very slender.
- 337 GOLDENROD. *Receptacle* naked. *Feather* hairy. *Blossoms* of the circumference about six; remote.
- 338 FLEAWORT. - *Receptacle* naked. *Feather* hairy. *Cup* equal; simple.
- 339 GROUNDSEL. *Receptacle* naked. *Feather* hairy. *Cup* with the scales dead at the ends.
- 340 BUTTERBUR. *Receptacle* naked. *Feather* hairy. *Cup* with somewhat membranaceous scales.
- 341 STARWORT. - *Receptacle* naked. *Feather* hairy. *Cup* a little rough and scurfy.
- 342 CHAMOMILE. *Receptacle* chaffy. *Feather* none. *Cup* hemispherical.
- 343 YARROW. - *Receptacle* chaffy. *Feather* none. *Circumference* containing about five florets. *Cup* oblong.

Order III. Barren Florets.

- 344 KNAWEED. *Receptacle* bristly. *Feather* hairy. *Blossoms* of the circumference tubular.

Order IV. Necessary Pointals.

- 345 CUDWEED. *Receptacle* naked. *Feather* none. *Florets with Pointals* amongst the scales of the cup.
- † *Fleabane.*

Order

Order VI. Flowers Simple.

- 346 SCABIOUS. *Cup* common. *Blossom* five petals; regular. *Capsule* beneath; with two cells.
- 347 CARDINALFLOWER. *Cup* with five teeth. *Blossom* one petal; irregular. *Capsule* beneath; with two cells.
- 348 VIOLET. - - *Cup* five leaves. *Blossom* five petals; irregular. *Capsule* superiour; with three valves.
- 349 WEATHERCOCK. *Cup* two leaves. *Blossom* five petals; irregular. *Capsule* superiour; with five valves.

308 ENDIVE.

308 ENDIVE. 921 Cichorium.

EMFAL. *Common*, double; cylindrical. Scales eight; narrow; spear-shaped; equal; forming a cylinder. Five scales shorter than and lying upon the others, form the outer cup.

BLOSS. *Compound*, flat; uniform. Florets with chives and pointals about twenty; placed in a circle.

Individuals; one petal; narrow; lopped; deeply divided into five teeth.

CHIVES. *Threads* five; hair-like; very short. *Tips* forming a hollow cylinder, with five edges.

POINT. *Seedbud* oblong. *Shaft* thread-shaped; as long as the chives. *Summits* two; rolled back.

S.VESS. None; but the cylindrical *Cup* closing at the point.

SEEDS. Solitary; compressed; with sharp angles. *Crown* of the seed an imperfect margin, with about five teeth;

RECEPT. Chaffy.

Wild
Intybus

ENDIVE. The flowers in pairs; sitting. Leaves notched. Scales of the outer cup fringed. Blossoms lateral; blue: by cultivation rose-coloured. They open at eight in the morning and close at four in the afternoon.

Cichoreum sylvestre. Gerard. 284. Park. 776. Ray's Syn. 172.

Cichorium sylvestre, seu officinarum. Baub. pin. 125.

Wild Succory, or Cichory.

Borders of corn-fields. B. July—August.

The leaves when blanched are eaten early in the spring in fallads. They lose their bitterness by cultivation—The roots gathered before the stem shoots up are eatable, and when dried will make bread.—Sheep, Goats and Swine eat it; Cows and Horses refuse it.

309 HAWKSEYE. 918 Hypochæris.

EMPAL. Common, oblong; tiled; distended at the base.

Scales spear-shaped; sharp.

BLOSS. Compound tiled; uniform. Florets with chives and pointals, numerous; the inner ones gradually shorter.

Individuals one petal; narrow; strap-shaped; lopped; with five teeth.

CHIVES. Threads five; hair-like; very short. Tips forming a hollow cylinder.

POINT. Seedbud egg-shaped. Shaft thread-shaped; as long as the chives. Summits two; reflected.

S. VESS. None: the Cup becoming globular but tapering, closes on the seeds.

SEEDS. Solitary; oblong. Feather standing on a pillar; downy.

RECEPT. Chaffy. Chaff spear-shaped; narrow; as long as the seeds.

HAWKSEYE. The stem almost naked, generally with a Spotted single branch. Leaves oblong egg-shaped; entire; toothed.—*Maculata* Cup hairy; composed of large scales. Blossoms yellow; they open at six in the morning and close at four in the afternoon.

Hieracium l latifolium. Ray's Syn. 167.

Hieracium alpinum latifolium hirsutie incanum, flore magno.

Bauh. pin. 128.

Spotted Hawkweed. Broad-leaved Hungarian Hawkweed.

On high grounds. P. July.

The leaves are boiled and eaten like Cabbage—Horses are fond of this plant when green, but they do not like it when dry.—Cows, Goats and Swine eat it; Sheep are not fond of it.

HAWKESEYE. Smooth. Cups oblong; tiled. Stem Smooth branched; naked. Leaves toothed and indented.—*Blossoms* Glabra very small, yellow. Scales of the Cup smooth. Fruit-stalks thickest towards the top. The flowers open at nine in the morning and close again at twelve or one.

Hieracium minus, dentis Leonis folio oblongo glabro. *Bauh. pin.* 127.

Hieracium parvum in arenosis nascens, feminum pappis densius radiatis. Ray's Syn. 166.

Smooth Hawkweed,

High gravelly pastures. B. July.

HAWKS-

Long-rooted
Radicata

HAWKSEYE. The leaves notched; blunt; rough. Stem branched; naked; smooth. Fruit-stalks scaly—*Blossoms large; yellow within; reddish green on the out-side. They close at three in the afternoon. Scales of the Cup fringed on the back. At the base of the leaves, and in the angles formed by the branches, are certain long yellow hairs.*

Hieracium, dentis Leonis folio obtuso majus. Baub. pin. 127.

Hieracium longius radicans. Gerard. 293. Park. 790. Ray's Syn. 165.

Long-rooted Hawkweed.

In Pastures. P. May—September.

310 **GOATSBEAR D.** 905 **Tragopogon.**

EMPAL. Common, simple; leaves eight; spear-shaped; equal; every other leaf standing more inwards; but all united at the base.

BLOSS. Compound, tiled; uniform. Florets with chives and pointals numerous; the outer ones rather longest.

Individuals one petal; narrow; lopped; with five teeth.

CHIVES. *Threads five; hair-like; very short. Tips forming a cylinder.*

POINT. *Seedbud oblong. Shaft thread-shaped; as long as the chives. Summits two; rolled back.*

S. VESS. None: the cup closing; tapering; as long as the seeds; a little distended.

SEEDS. Solitary; oblong; tapering towards each end; angular; rough; terminated by a long awl-shaped pillar supporting the *Feather*, which is downy and flat; with about thirty-two spokes.

RECEPT. Naked; flat; rough.

OBS. *In some species the seeds are straight and the cup longer than blossoms. In others the seeds are crooked and the cup shorter than the blossoms.*

Yellow
Pratenſe

GOATSBEAR D. The cup equal with the florets in the circumference. Leaves entire, stiff and straight—*The blossoms expand early in the morning but close again before noon. Yellow.*

Tragopogon luteum. Gerard. 735. Park. 412. Ray's Syn. 171.

Tragopogon pratensis luteum majus. Baub. pin. 274.

Go to Bed at Noon.

Corn-fields and pastures. B. June.

Before the stem shoots up, the roots boiled like Sparagus have the same flavour, and are nearly as nutritious—Cows, Sheep and Horses eat it; Swine devour it greedily; Goats are not fond of it.

GOATS.

GOATSBEARD. The cup longer than the florets in the Purple circumference. Leaves entire; stiff and straight. Fruit-stalks Porrifolium thickest towards the top—*Blossoms purple.*

Tragopogon purpureo-cæruleum porrifolio quod Artifi vulgo.
Bauh. pin. 274.

Tragopogon purpureum. Gerard. 735. Park. 412. Ray's
Syn. 172.

Salsafy.

Meadows and marshes. B. June.

The roots are esculent, and when cultivated in gardens are called Salsafic—

311 OXTONGUE. 907 Picris.

EMPAL. Common, double. The Outer Cup large; with five heart-shaped, flat, flexible, approaching leaves. The Inner Cup tiled; egg-shaped.

BLOSS. Compound, tiled; uniform. Florets with chives and pointals; numerous.

Individuals one petal; narrow; strap-shaped; lopped; with five teeth.

CHIVES. Threads five; hairlike; very short. Tips forming a hollow cylinder.

POINT. Seedbud nearly egg-shaped. Shaft as long as the chives. Summits two; reflected.

S.VESS. None. The Cup unchanged contains the seeds.

SEEDS. Solitary; distended; blunt; furrowed transversely. Feather downy.

RECEPT. Naked.

OXTONGUE. The outer cup with five leaves; larger than Common the inner cup, which is furnished with awns—*Leaves undivided; Echioides embracing the Stem. Blossoms yellow. They expand at four or five in the morning and never close before noon; sometimes they remain open till nine at night.*

Hieracium Echioides, capitulis Cardui benedicti. Bauh. pin.
128. Ray's Syn. 166.

Buglossum luteum. Gerard. 798. seu Lingua bovis. Park. 800.
Corn-fields. A. July—August.

This is an agreeable pot-herb when young. The juice is milky, but not too acrid.

Hawk-weed

Hieracium

OXTONGUE. Cups flexible. Leaves entire—*The outer cup consists of about ten leaves, only half as long as the inner ones. The Inner Cup hath about the same number of leaves, covered with strong hair. Blossoms yellow.*

Hieracium asperum, majore flore; in agrorum limitibus. Ray's Syn. 167.

Hieracium asperum. Gerard. 298.

Cichorium pratense luteum hirsutie asperum. Baub. pin. 126.

Cichorium pratense luteum asperum. Park. 777.

Yellow Succory. Rough Hawk-weed.

Borders of corn-fields. A. July.

1. There is a variety with toothed and indented leaves.

Near the sides of brooks. A. September.

312 DANDELION. 912 Leontodon.

EMPAI. Common, tiled; oblong. The Inner scales strap-shaped; parallel; equal. The Outer scales fewer, and generally reflected down to the base.

BLOSS. Compound, tiled; uniform. Florets with chives and pointals numerous; the inner ones gradually shorter.

Individuals one petal; narrow; lopped; with five teeth.

CHIVES. Threads five; hairlike; very short. Tips forming a hollow cylinder.

POINT. Seedbud nearly egg-shaped. Shaft thread-shaped; as long as the central blossoms. Summits two; rolled back.

S.VESS. None. Cup oblong; straight.

SEEDS. Solitary; oblong; rough. Feather supported on a little pillar; downy.

RECEPT. Naked; dotted.

OBS. In the second species the feather is sitting.

Common

Taraxacum

DANDELION. The scales of the cup reflected downwards. Leaves smooth, notched, and edged with little teeth—*Sometimes in moist situations the leaves are without the little teeth. Blossoms yellow. They generally expand at five or six in the morning and close again early in the afternoon.*

Dens Leonis. Gerard. 290. Ray's Syn. 171. vulgaris. Park. 780.

Dens Leonis latiore folio. Baub. pin. 126.

Pissabed.

1. The leaves are sometimes narrower and a little downy. *Baub. pin. 126. Ray's Syn. 171.*

Road-sides, pastures, Ditch-banks. P. April—September.

Early

Early in the spring whilst the leaves are yet white, and hardly unfolded, they are an excellent ingredient in sallads. The French eat the roots and tender leaves with bread and butter. Children that eat it in the evening experience its diuretic effects, which is the reason that other European nations as well as ourselves, vulgarly call it Piss-a-bed.—When a swarm of Locusts had destroyed the Harvest in the Island of Minorca, many of the inhabitants subsisted upon this plant—The expressed juice has been given to the quantity of four ounces three or four times a day, and Boerhaave had a great opinion of the utility of this and other lactescent plants in visceral obstructions—Goats eat it; Swine devour it greedily; Sheep and Cows are not fond of it; Horses refuse it. Small Birds are fond of the seeds.

The Black Tussock Moth, *Phalæna Fascelina*, and the *Thrips Physapus*, feed upon it.

DANDELION. Stem branching; fruit-stalks scaly. Leaves Autumnal spear shaped; toothed; very entire; smooth—*The root appears as Autumnale if bitten off.* Blossoms yellow. *They open about seven in the morning and close about three in the afternoon.*

Hieracium minus præmorsa radice. Park. 794. Ray's Syn. 165.

Hieracium minus; seu *Leporinum.* Gerard. 296.

Hieracium Chondrillæ folio glabro, radice succisa majus Bauh. pin. 127.

Yellow Devils-bit.

1. There is a variety with jagged leaves.

Pastures. P. August.

Horses, Goats and Swine eat it; Cows and Sheep refuse it.

DANDELION. Cup quite upright. Leaves toothed; hairy; Rough very entire. Hairs-forked—*Blossoms yellow; greenish on the outside.* *They open at four in the morning and close at three in the afternoon.*

Dens Leonis hirsutus, leptocaulus, Hieracium dictus. Ray's Syn. 171.

Hieracium, Dentis Leonis folio hirsutum. Gerard. 303.

Hieracium asperum flore magno Dentis Leonis. Bauh. pin. 127.

Hieracium asperum, foliis et floribus Dentis Leonis bulbosi. Park. 788. Ray's Syn. 167.

Pastures. P. May—June.

Hairy
Hirtum

DANDELION. Cup quite upright. Leaves toothed; hairy hairs undivided—*Blossoms yellow on both sides.*

Hieracium pumilum saxatile asperum, præmorsa radice. Ray's Syn. 167.

Hieracium Dentis Leonis folio, hirsutie asperum, minus laciniatum. Baub. pin. 127.

Leontodon hispidum. B. Hudson. 297.

Pastures. P. June—September.

313 SOWTHISTLE. 908 Sonchus.

EMPAL. Common, distended and hunched; with many strap-shaped; unequal scales.

BLOSS. Compound, tiled; uniform. *Florets* with chives and pointals, numerous; equal.

Individuals, one petal; narrow; lopped; with five teeth.

CHIVES. *Threads* five; hair-like; very short. *Tips* forming a hollow cylinder.

POINT. *Seedbud* somewhat egg-shaped. *Shaft* thread-shaped; as long as the chives. *Summits* two; reflected.

S.VESS. None; the Cup closing forms a compressed globe, but tapering.

SEEDS. Solitary; rather long. *Feather* hairy.

RECEPT. Naked.

Marth
Palustris

SOWTHISTLE. Flowers in a sort of rundle; fruit-stalks and cups rough with hair. Leaves notched; with awns at the base—*Blossoms deep yellow. They expand at six or seven in the morning and close at two in the afternoon.*

Sonchus tricubitalis, folio cuspidato. Ray's Syn. 163.

Sonchus arborefcens alter. Gerard. 294.

Sonchus asper arborefcens. Baub. pin. 124.

Banks of rivers. P. August.

Tree
Arvensis

SOWTHISTLE. Flowers in a sort of rundle; fruit-stalks and cups rough with hair. Leaves notched; heart-shaped at the base—*Blossoms yellow. They expand betwixt six and seven and close again betwixt eleven and twelve in the morning.*

Sonchus repens; multis Hieracium majus. Ray's Syn. 163.

Sonchus arborefcens. Gerard. 294.

Hieracium majus, folio Sonchi. Baub. pin. 126.

Corn-fields and ditch-banks. P. August.

The flowers follow the course of the Sun, very regularly.

Cows and Goats eat it: Horses are very fond of it.

SOWTHISTLE.

SOWTHISTLE. Fruit-stalks downy ; cups smooth—*Leaves* Common compressed and embracing the stem. The Fruit-stalks when old become Oleraceous smooth. Blossoms pale yellow. They open about five in the morning and close again at eleven or twelve.

Sonchus lævis. Gerard. 292. Ray's Syn. 162. vulgatus. Park. 805.

Sonchus lævis laciniatus latifolius. Baub. pin. 124.

1. There are some varieties in the roughness or smoothness of the plants, and in the leaves being more or less jagged, which depend upon the soil, situation and time of growth.

Amongst rubbish. Corn-fields. Gardens. A. June—August.

The leaves are good amongst other pot-herbs—They are a very favorite food with Hares and Rabbits—Sheep, Goats and Swine eat it : Horses are not fond of it.

The Sowthistle Louse, *Aphis Sonchi*, lives upon it.

SOWTHISTLE. Fruit-stalks scaly ; flowers in bunches. Blue Leaves notched—*Fruitstalks* clammy. Cups brown. Blossoms blue. *Alpinus* They open at seven in the morning and close at noon.

Sonchus lævis laciniatus cæruleus, seu *Sonchus Alpinus cæruleus.* Baub. pin. 124.

Blue Mountain Sow-thistle.

On the sides of mountains. A:

The Laplanders get the stems before the flowers expand ; strip off the bark and eat them ; but they are much improved by the addition of Oil and Vinegar—It communicates a bitter taste to the milk of Cattle that are fed with it.—Cows, Goats and Swine eat it : Horses and Sheep are very fond of it.

Most of the species nourish the Sow-thistle Louse, *Aphis Sonchi*.

314 SUCCORY. 914 Crepis.

EMPAL. *Common double.*

Outer Cup very short; open; deciduous.

Inner Cup egg-shaped; simple; furrowed; permanent. *Scales* strap-shaped; approaching.

BLOSS. *Compound*, tiled; uniform. *Florals* many; equal; with chives and pointals

Individuals one petal; narrow; lopped; with five teeth.

CHIVES. *Threads* five; hair-like; very short. *Tips* forming a hollow cylinder.

POINT. *Seedbud* nearly egg-shaped. *Shaft* thread-shaped; as long as the chives. *Summits* two; reflected.

S.VESS. None. *Cup* roundish.

SEEDS. Solitary; oblong. *Feather* sometimes standing on a pillar; hairy.

RECEPT. Naked.

OBS. *In the smooth SUCCORY the Feather of the seed is fitting.*

Stinking
Fætida

SUCCORY. Leaves hairy; notched, and almost winged. Leaf-stalks toothed—*The flowers before they open hang down. Leaves smell like bitter almonds. Blossoms purplish on the outside; yellow within.*

Hieracium Castorei odore monspeliensium. Ray's Syn. 165.

Senecio hirsutus, Bauh. pin. 131.

Stinking Hawk-weed.

On chalky soil, B. June—July.

Smooth
Tectorum

SUCCORY. Leaves smooth; fitting; spear-shaped; notched. The lower leaves toothed—*Stem angular and furrowed. Cups furrowed and set long-ways with clammy hairs. This plant varies greatly in its appearance according to the place of its growth. Blossoms yellow. They expand at four in the morning and close about noon.*

Hieracium luteum glabrum, five minus *hirsutum*. Ray's Syn. 165.

Cichorium pratense luteum lævius. Bauh pin. 126. Park. 778.

Smooth Succory Hawk-weed.

Walls. Roofs. Pastures. A. June—September.

The variations are chiefly in the leaves which are

1. Large and sharp.
2. Small and sharp.
3. Small and blunt.
4. Like Lettuce leaves.
5. It is sometimes considerably branched.

Cows, Goats, Sheep and Swine eat it: Horses are not fond of it.

SUCCORY.

SUCCORY. Leaves notched with winged clefts; rough; Rough toothed above the base. Cups covered with sharp points—*Stem* Biennis angular; rough; four feet high or more; brittle. Blossoms yellow.

Hieracium maximum Chondrillæ folio, asperum. Bauh. pin. 127. Ray's Syn. 166.

Rough Succory Hawk-weed.

Fields and hedges. B. July—August.

315 IVYLEAF. 911 Prenanthes.

EMPAL. Common, double; cylindrical; smooth. The Scales of the cylinder equal in number to the florets.

The Scales of the base few; unequal; very short.

BLOSS. Compound, generally consisting of a single row of florets. Florets from five to eight; with chives and pointals; equal; standing in a circle.

Individuals one petal; narrow; lopped; with four teeth.

CHIVES. Threads five; hairlike; very short. Tips forming a hollow cylinder.

POINT. Seedbud nearly egg-shaped. Shaft thread-shaped; longer than the chives. Summit cloven; reflected.

S.VESS. None. Cup cylindrical; closing a little at the rim.

SEEDS. Solitary; heart-shaped. Feather hairy.

RECEPT. Naked.

IVYLEAF, with five florets in each compound flower. Lettuce Leaves notched.—Blossoms yellow. Feather of the seed supported by Muralis a little pillar.

Lactuca sylvestris murorum flore luteo. Ray's Syn. 152.

Sonchus lævis muralis. Gerard. 293.

Sonchus lævis alter, parvis floribus. Park. 805.

Sonchus lævis laciniatus muralis parvis floribus. Bauh. pin.

124.

Ivy-leaved wild Lettuce.

On old walls. In shady woods. P. July.

Cows, Goats and Horses eat it; Sheep are very fond of it,

316 LETTUCE. 909 *Lactuca*.

EMPAL. Common, tiled; somewhat cylindrical. Scales many, tapering to a point.

BLOSS. Compound, tiled; uniform. Florets with chives and pointals, many; equal.

Individuals one petal; narrow; lopped; with four or five teeth.

CHIVES Threads five; hairlike; very short. Tips forming a hollow cylinder.

POINT. Seedbud somewhat egg-shaped. Shaft thread-shaped; as long as the chives. Summits two; reflected.

S. VESS. None. Cup closing; betwixt egg-shaped and cylindrical.

SEEDS. Solitary; egg-shaped; taper; compressed. Feather hairy; simple. Pillar long, tapering at the bottom.

RECEPT. Naked.

Strong-scented Virofa LETTUCE. Leaves pointing horizontally; toothed. The middle rib set with prickles on the under-side—Root leaves entire. Blossoms numerous; yellow. Seeds black. The blossoms open about seven and close about ten in the forenoon.

Lactuca sylvestris major, odore opii. Gerard. 309. Ray's Syn. 161.

Lactuca sylvestris odore viroso. Baub. pin. 123.

Lactuca virofa. Park. 813.

Strong-scented wild Lettuce.

1. There is a variety in which the leaves are not indented.

Ditch-banks. Borders of fields. B. July—August.

The Juice smells like Opium, and upon tryal has been found to possess similar properties. If it is caught in shells, and dried by a gentle heat, it may be formed into pills.

Least Saligna

LETTUCE. Leaves narrow but somewhat halberd-shaped, and sitting. The middle rib prickly on the under-side—The lower leaves with winged clefts. Blossoms yellow.

Chondrilla viscosa humilis. Baub. pin. 130. Park. 783. Gerard. 287.

The Lambda Moth, *Phalena Gamma*; the great Tyger Moth, *Phalena Caja*; and the Lettuce Louse *Aphis Lactuceæ*, live upon these species.

317 HAWKWEED. 913 Hieracium.

EMPAL. Common, tiled; cylindrical: Scales many; strap-shaped; very unequal; lying lengthways one over another.

BLOSS. Compound, tiled; uniform. Florets with chives and pointals, numerous; equal.

Individuals one petal; narrow; lopped; with five teeth.

CHIVES. Threads five; hair-like; very short. Tips forming a hollow cylinder.

POINT. Seedbud nearly egg-shaped. Shaft thread-shaped; as long as the chives. Summits two; bent backwards.

S. VESS. None. Cup closing; egg-shaped.

SEEDS. Solitary: with four blunt edges; short. Feather hairy.

RECEPT. Naked.

* Stalk naked; supporting a single flower.

HAWKWEED. Leaves oblong; entire; toothed. Stalk nearly naked, supporting one flower. Cup hairy—Leaves with white upright hairs. Stalk thick, set with white hairs, which are brown at the base; and with one or two small floral leaves towards the top. Blossoms yellow. Mountain
Alpinum

Hieracium alpinum pumilum, folio lanuginoso. Baub. pin. 129.

Hieracium villosum alpinum, flore magno singulari. Ray's Syn. 169. Tab. 6. fig. 2.

On Rocks. P. July.

HAWKWEED. Leaves very entire; egg-shaped: downy underneath. Stalk supporting one flower. Suckers creeping—Blossom red on the outer-side; pale yellow within. Cups set thick with black hairs. The flowers open at eight in the morning and close about two in the afternoon. Mouse-ear
Pilofella

Pilofella repens. Gerard. 638. Ray's Syn. 170.

Pilofella minor vulgaris repens. Park. 690.

Pilofella major repens hirsuta. Baub. fin. 262.

Common creeping Mouse-ear.

Dry pastures. A. May—July.

This

This differs from the other lactescent plants, being less bitter and more astringent—It is esteemed hurtful to Sheep—An insect of the Cochineal genus (*Coccus Polonicus*) is often found at the roots. *Ad. Upsal*, 1752. Goats eat it; Sheep are not fond of it; Horses and Cows refuse it.

* * *Stalk naked, supporting several flowers.*

Green
Dubium

HAWKWEED. Leaves entire; oblong egg-shaped: Stalk naked; supporting several flowers. Suckers creeping—*Blossoms pale yellow.*

Pilosella major repens, minus hirsuta. *Bauh. pin.* 262.

On hills in Westmoreland. P. July—August.

Sheep eat it.

Narrowleaved
Auricula

HAWKWEED. Leaves very entire, spear-shaped. Stalk naked; supporting several flowers. Suckers creeping—*Stem and Cups beset with black hairs. Hairs on the leaves very small. Blossoms pale yellow.*

Pilosella major erecta altera. *Bauh. pin.* 262.

Hilly pastures. P. July.

Sheep eat it; Cows refuse it.

* * * *Stem leafy.*

Golden
Murorum

HAWKWEED. Stem branched. Root-leaves egg-shaped; toothed. Stem leaves one or two; smaller—*Toothed; sharp; reddish on the under surface. Flowers few; yellow. They open about six in the morning and close about two in the afternoon.*

Hieracium murorum foliis pilosissimis. *Bauh. pin.* 129. *Ray's Syn.* 168.

Hieracium murorum Bauhini, quod est *Pulmonaria Gallorum Lobelii.* *Park.* 801.

Pulmonaria Gallica, seu aurea latifolia. *Gerard.* 304.

French Lungwort. Golden Lungwort.

Woods, old walls, and rough shady places. P. July.

1. Narrow-leaved. *Pulmonarium dictum angustifolium.* *Ray's Syn.* 168.

2. Round-leaved. *Hieracium macrocaulon hirsutum folio rotundiore.* *Ray's Syn.* 169.

3. Long-leaved. *Leptocaulon hirsutum folio longiore.* *Ray's Syn.* 169.

Horses eat it.

HAWK-

HAWKWEED. Stem supporting a panicle of flowers. Marsh
Leaves embracing the stem; toothed; smooth. Cups rough Paludifum
with hair—*The hairs of the cups black.* Blossoms yellow. *They ex-*
pend at six in the morning and close at five in the afternoon.

Hieracium montanum latifolium glabrum minus. *Baub. pin.*
129.

Hieracium montanum Cichorei folio. *Ray's Syn.* 166.

Succory-leaved Hawkweed.

Moist meadows and banks of rivulets. B. July.

1. Cups and fruit-stalks set with yellow hairs.

HAWKWEED. Stem upright; supporting many flowers. Broad leaved
Leaves betwixt egg and spear-shaped; toothed; half embracing Sabaudum
the stem—*The receptacle in this and the following species is more*
rough than in the others. Blossoms yellow. *They continue expanded*
from seven in the morning until one or two in the afternoon.

Hieracium fruticosum latifolium hirsutum. *Baub. pin.* 129.
Park. 802. *Ray's Syn.* 167.

1. There is one variety with smooth leaves.

2. And another with narrower leaves. *Ray's Syn.* 170.

Broad-leaved bushy Hawkweed.

Woods and hedges. P. July—August.

HAWKWEED. Leaves strap-shaped; somewhat toothed; Bushy
scattered. Flowers in a sort of rundles—*Blossoms yellow.* Seeds Umbellatum
purple. *The blossoms open about six in the morning and close at five*
in the afternoon.

The appearance of this plant varies in different situations. In
woods it is more branched, more leafy, the leaves broader, of a darker
colour and the blossoms paler, than in open airy places.

Hieracium fruticosum angustifolium majus. *Park.* 801.
Baub. pin. 129. *Ray's Syn.* 168.

Hieracium intybaceum. *Gerard.* 298.

Narrow-leaved bushy Hawkweed.

Woods and hedges. P. July—August.

It tinges wool with a beautiful and elegant colour. *Iter. Scan.*

342.

Horses, Cows, Goats, Sheep and Swine eat it.

318 NIPPLEWORT. 919 Lapsana.

EMPAL. *Common*, double; egg-shaped; angular. *Scales of the Tube* eight; equal; strap-shaped; with a hollow channel; keeled; sharp. *Scales of the Base* six; tiled; small. Every other scale smaller.

BLOSS. *Compound*, tiled; uniform. *Florets* with chives and pointals, about sixteen; equal.

Individuals one petal; narrow; lopped; with five teeth.

CHIVES. *Threads* five; hair-like; very short. *Tips* forming a hollow cylinder.

POINT. *Seedbud* rather oblong. *Shaft* thread-shaped; as long as the chives. *Summit* cloven; reflected.

S. VESS. None. The *Scales* of the tube of the cup close upon the seeds.

SEEDS. Solitary; oblong; cylindrical; but with three edges. *Feathers* various; sometimes wanting.

RECEPT. Naked; flat.

Common
Communis

NIPPLEWORT. The cup angular when the seed is ripe. Fruit-stalks slender; very much branched—*Blossoms yellow; terminating.*

Lapsana. Gerard. 255. Ray's Syn. 173. vulgaris. Park. 810.

Soncho affinis Lapsana domestica. Buxb. pin. 124.

Dock Cresses.

Ditch-banks and uncultivated places. A. June—July.

Before it goes into flower it is eaten raw at Constantinople. Boiling increases its bitterness.—Horses, Cows, Sheep and Swine eat it; Goats refuse it.

319 YELLOWEYE. 916 Hyoseris.

EMPAL. *Common*, of ten leaves. *Scales* spear-shaped; upright; equal; set with very short scales at the base.

Proper Cup superiour; with five divisions; very short; sharp; permanent. It often supplies the place of the feather.

BLOSS. *Compound*, somewhat tiled; uniform. *Florets* with chives and pointals, disposed in one or two rows.

Individuals one petal; narrow; lopped; with five teeth.

CHIVES. *Threads* five; hair-like; very short. *Tips* forming a hollow cylinder.

POINT. *Seedbud* rather oblong. *Shaft* thread-shaped; as long as the chives. *Summits* two; reflected.

S.VESS. None. Common empalement straight.

SEEDS. Solitary; nearly oblong; compressed; as long as the cup; crowned with a hair-like *Feather*, or with the *Proper Cup*.

RECEPT. Naked.

YELLOWEYE. Stem divided; naked. Fruit-stalks thickest towards the top—*Blossoms* yellow. Hawkweed Minima

Hyoseris mascula. Gerard. 288.

Hieracium minimum Clifii Hyoseris Tabernamontani et Gerardi. Park. 791. Ray's Syn. 173.

Hieracium minus folio subrotundo. Bauh. pin. 127.

Small Swine's Succory.

Corn-fields, and in gravelly soil. A. May—June.

320 TWINGEWORT. 929. *Carlina*.

EMFAL. *Common*, distended; radiate; tiled. *Scales* numerous; flexible; sharp. The inner scales placed in a circle, very long; expanding; shining; coloured; forming rays to the compound flower.

BLOSS. *Compound*, uniform; tubular. *Florets* with chives and pointals, equal.

Individuals one petal; funnel-shaped. *Tube* slender. *Border* funnel-shaped; with five clefts.

CHIVES. *Threads* five; hair-like; very short. *Tips* forming a hollow cylinder.

POINT. *Seedbud* short. *Shaft* thread-shaped; as long as the chives. *Summit* oblong; cloven or entire.

S. VESS. None. *Cup* unchanged.

SEEDS. Solitary; rather cylindrical. *Feather* downy; branched.

RECEPT. Flat; set with cloven *Chaffy* substances three, of which grow together.

Carlina
Vulgaris

TWINGEWORT. Stem supporting several flowers in a sort of broad topped spike. Flowers terminating. Rays of the empalement white—Or yellowish. Leaves toothed; with two yellow thorns on each tooth. Blossoms purple.

Carlina sylvestris major. Gerard. 1150.

Carlina sylvestris quibusdam, aliis atractylis. Ray's Syn. 175.

Cnicus sylvestris spinosior. Bauh. pin. 378.

Wild Carlina Thistle.

Dry pastures. B. June.

The flowers expand in dry, and close in moist weather. They retain this property a long time and therefore are employed as Hygrometers—It is said to be an excellent remedy in Hysterical cases. *Amén Acad.* V. 3. p. 64.—Goats eat it; Cows refuse it.

321 BURDOCK. 923 Arctium.

EMPAL. *Common*, globular; tiled. *Scales* spear-shaped; ending in awl-shaped prickles; long and hooked at the points.

BLOSS. *Compound*, tubular; uniform. *Florets* with chives and pointals equal.

Individuals one petal; tubular. *Tube* slender; very long. *Border* egg-shaped; with five clefts. *Segments* strap-shaped; equal.

CHIVES. *Threads* five; hair like; very short. *Tips* forming a hollow cylinder, as long as the blossom; with five teeth.

POINT. *Seedbud* oblong; with soft hairs at the end. *Shaft* thread-shaped; longer than the chives. *Summit* cloven; reflected.

S. VESS. None. *Cup* closing.

SEEDS. Solitary; like an inverted pyramid; the two opposite angles imperfect; hunched on the outside. *Feather* simple; shorter than the seed.

RECEPT. Chaffy; flat. *Chaff* like bristles.

BURDOCK. Leaves heart-shaped; without thorns; grow- Common
ing on leaf-stalks—*Blossoms* purple.

Lappa major, seu Arctium Dioscoridis. *Bauh. pin.* 198. *Ray's* Lappa
Syn. 197.

Bardana major. *Gerard.* 809.

Bardana vulgaris major. *Park.* 1222.

1. Flowering heads large and smooth. *Ray's Syn.* 195.

2. Flowering heads small and smooth. *Ray's Syn.* 197.

3. Flowering heads large and downy. *Bauh. pin.* 198.

4. Flowering heads small, globular and downy.

5. The whole plant small; flowering heads covered with an elegant network.

Clott-bur.

Road-sides, and among rubbish. B. July—August.

Before the flowers appear, the stems deprived of the bark, are boiled and eat like 'Sparagus. When raw they are good with Oil and Vinegar—A decoction of the roots, is esteemed by some very sensible Physicians, as equal, if not superior to that of Sarsaparilla—Boys catch Bats, by throwing the prickly heads up into the air.—Cows and Goats eat it; Sheep and Horses refuse it; Swine are not fond of it.

The Ghost Moth, *Phalaena Humuli*, feeds upon the roots, and the mottled Orange Moth upon the stalks.

322 THISTLE.

322 THISTLE. 925 Carduus.

EMPAL. Common, distended; tiled. Scales numerous; spear-shaped; tapering; thorny.

BLOSS. Compound, tubular; uniform. Florets with chives and pointals, nearly equal; reflected.

Individuals one petal, funnel-shaped. Tube very slender; Border upright; egg-shaped at the base; with five clefts. Segments strap-shaped; equal; one more deeply divided.

CHIVES. Threads five; hair-like; very short. Tips forming a hollow cylinder as long as the blossom; with five teeth at the mouth.

POINT. Seedbud egg-shaped. Shaft thread-shaped; longer than the chives. Summit simple; awl-shaped; naked; notched at the end.

S. VESS. None. Cup closes a little.

SEEDS. Solitary; inversely egg-shaped; with four angles, but the two opposite ones imperfect. Feather sitting; very long.

RECEPT. Hairy; flat.

* Leaves running along the stem.

Spear
Lanceolatus

THISTLE. Leaves running along the stem; with winged clefts; rough with hair; segments straddling. Cups egg-shaped; thorny; woolly. Stem hairy—The inner scales of the cup are bristly; dry, and without thorns. Blossoms purple.

Carduus lanceatus. Gerard. 1174. Ray's Syn. 195.

Carduus lanceatus latifolius. Baub. pin. 385. seu major. Park. 982.

1. The size of the whole plant differs considerably according to the soil and situation. Ray's Syn. 195.
Road-sides. B. July.

Few plants are more disregarded than this, and yet its use is very considerable. If a heap of clay is thrown up, nothing would grow upon it for several years, if the seeds of this plant, wafted by the wind, did not fix and vegetate thereon. Under the shelter of this, other vegetables appear, and the whole soon becomes fertile—The flowers, like those of the Artichoke, have the property of Rennet in curdling milk.—Sheep and Swine refuse it; neither Horses, Cows or Goats are fond of it—The painted Lady Butterfly, *Papilio Cardui*, and the Thistle Ermine Moth, feed upon it.

THISTLE

THISTLE. Leaves running a little way along the stem; Musk thorny. Flowers on crooked fruit-stalks. The scales of the Nutans cup expanding upwards—*Shafts bent side-ways. Leaves with a white rib. Blossoms purple. Seeds brown and glossy.*

Cirsium majus singulari capitulo magno. Baub pin. 377.

Carduus Nutans. Ray's Syn. 193.

1. Blossoms white.

Very dry soil. B. July.

Horses eat it; Cows are not fond of it; Goats and Sheep refuse it.

THISTLE. Leaves running along the stem; indented; Waxed thorny at the edge. Cups on fruit-stalks; solitary; upright; Acanthoides woolly—*The inner scales of the cup expanding. The Blossoms with five clefts, but the lower segment is almost divided down to the base, so that the blossom may be considered as composed of two lips; with the upper lip cloven into four parts and the lower lip undivided. Shafts twice as long as the florets. Leaves halberd-shaped; with winged clefts; the under-side, set with white straight hairs. Blossoms pale red.*

Carduus spinosissimus, Capitulis minoribus. Ray's Syn. 194.

Road-sides and ditch-banks. A. June—July.

THISTLE. Leaves running along the stem; indented; thorny at the edge. Flowers incorporated; terminating. Scales *Crispus* standing open; not thorny, but ending in a sort of awn—*Leaves with a whitish down and green veins on the under surface. Florets sometimes proliferous; purple.*

Carduus caule crispo. Ray's Syn. 194.

Carduus spinosissimus angustifolius vulgaris. Baub. pin. 385.

Carduus Polyanthos. Park. 982. primus. Gerard. 1173.

Thistle upon Thistle.

Road-sides and ditch-banks. A. June.

1. There is a variety with white flowers, growing in marshy places

Horses, Cows, Goats and Sheep eat it.

THISTLE. Leaves running along the stem; toothed; Marsh thorny at the edges. Flowers in bunches, upright. Fruit-stalks *Palustris* without thorns—*Cups closely tiled; smooth; the sharp points being, hardly discernible. Blossoms purple.*

Carduus palustris. Baub. pin. 377. Park. 983. Ray's Syn. 194.

Marshy shady places. P. July.

This, and almost all the other species of this genus, may be eaten like the Burdock, before the flowers are formed.—Swine eat it; Horses are very fond of it; Cows refuse it.

Gentle
Dissectus

THISTLE. Leaves running along the stem: spear-shaped; with little teeth; without thorns. Cups thorny—*Blossoms purple; or white.*

Cirsium Anglicum. Gerard. 1183. Ray's Syn. 193. primum Park. 961.

Cirsium majus singulari capitulo magno, five incanum varie dissectum. Bauh. pin. 377.

English soft Thistle.

In marshes. P. June—July.

* * Leaves fitting.

Milk
Marianus

THISTLE. Leaves embracing the stem; halberd-shaped; with winged clefts; thorny. Cups without any leaves near it. Thorns channelled and set with other little thorns—*Leaves with white streaks, or spots. Blossoms purple.*

Carduus Mariae. Gerard. 989. Ray's Syn. 195. vulgaris. Park. 979.

Carduus albis maculis notatus vulgaris. Bauh. pin. 281.

Ladies Thistle.

1. There is a variety that is hairy and not spotted. Ray's Syn. 194.

Road-sides, ditch-banks, and the borders of corn-fields. A. July.

This is eaten when young as a salad. The young stalks peeled, and soaked in water to take out the bitterness, are excellent. The scales of the cup are as good as Artichokes. The root is good to eat early in the spring.

Woolly head-
ed
Eriophorus

THISTLE. Leaves fitting; divided into winged clefts pointing two ways. Every other segment upright. Cups globular; woolly—*Scales of the cup ending in a yellow thorn. Blossoms purple; or white.*

Carduus Erioccephalus. Gerard. 1152.

Carduus capite rotundo tomentoso. Bauh. pin. 382.

Carduus tomentosus Corona fratum dictus. Park. 978.

Friars Crown.

Hilly pastures. B. July.

Melancholy
Helenioides

THISTLE. Leaves embracing the stem; spear-shaped; toothed. Little thorns unequal; fringed; stem unarmed—*Five or six feet high. Leaves all undivided; white on the under surface. Stem furrowed. Floral Leaves awl-shaped. Blossoms purple.*

Cirsium Britannicum Clusii, repens. Ray's Syn. 193.

Cirsium aliud Anglicum. Park. 961.

Cirsium singulari capitulo squamato, vel incanum alterum. Bauh. pin. 377.

Hilly countries. P. June—July.

THISTLE.

THISTLE, without a stem. Cup smooth—*Blossoms purple*. Dwarf
Carlina acaulis, minore purpureo flore. *Baub. pin.* 380. *Acaulis*
Gerard. 1158. *Ray's Syn.* 195.

Carlina acaulis Septentrionalium. *Park.* 969.

Dwarf Carline Thistle.

Dry hilly countries. P. July.

Cows refuse it.

The different species of THISTLES affords nourishment to the following insects.

Green Tortoise Beetle. *Cassida viridis*—*Cassida nebulosa*.

Painted Lady Butterfly. *Papilio Cardui*.

Horned Froghopper. *Cicada Cornuta*.

Thistle Bug. *Cimex Cardui*.

Thistle Fly. *Musca Solstitialis*.

Thistle Louse. *Aphis Cardui*.

323 ARGENTINE. 927 Onopordum.

EMPAL. Common, roundish; distended; tiled. Scales numerous; thorny; prominent every way.

BLOSS. Compound, tubular; uniform. Florets with chives and pointals, equal.

Individuals one petal; funnel-shaped. Tube very slender. Border upright; distended; with five clefts. Segments equal; but one more deeply divided than the rest.

CHIVES. Threads five; hair-like; very short. Tips forming a hollow cylinder as long as the blossom, with five teeth.

POINT. Seedbud egg-shaped. Shaft thread-shaped; longer than the chives. Summit crowned.

S. VESS. None. The Cup closes a little.

SEEDS. Solitary. Feather hair-like.

RECIPT. Divided like a honey-comb into four-cornered membranaceous cells.

Cotton
Acanthium

ARGENTINE. Cups scurfy ; scales expanding ; awl-shaped. Leaves oblong egg-shaped ; indented.—*Blossoms purple.* The whole plant of a whitish green colour ; the stem furnished with a membrane on each side, running along it up to the cup.

Carduus tomentosus, acanthium dictus, vulgaris. Ray's Syn. 196.

Acanthium album. Gerard. 1149.

Acanthium vulgare. Park. 979.

Spina alba tomentosa latifolia sylvestris. Bauh. pin. 382.

Cotton Thistle.

Among rubbish and in uncultivated places. B. July.

The central part of the flower, (the Receptacle) and the young stems are boiled and eaten like Artichokes.—The ancients thought this plant a specific in cancerous cases.—Cows, Sheep and Horses refuse it.

324 SAW-WORT. 924 Serratula.

EMPAL. Common. oblong ; rather cylindrical ; tiled. Scales spear-shaped ; without awns ; sharp.

BLOSS. Compound, tubular ; uniform. Florets with chives and pointals ; equal.

Individuals one petal ; funnel-shaped. Tube bent inwards. Border with five clefts ; distended.

CHIVES. Threads five ; hair like ; very short. Tips forming a hollow cylinder.

POINT. Seedbud egg-shaped. Shaft thread-shaped ; as long as the chives. Summits two ; oblong ; reflected.

S. VESS. None. Cup unchanged.

SEEDS. Solitary ; inversely egg-shaped. Feather sitting.

RICEPT. Naked, or chafly.

OES. The feather in some species is downy, but in others hairy. The THISTLE is distinguished from the SAW-WORT by the receptacle being hairy ; the cup distended ; its scales thorny ; and the summit less cloven.

Dyers
Tinctoria

SAW-WORT. Leaves lyre-shaped ; with winged clefts. The terminating segment very large. Florets uniform—*l'lossoms purple, sometimes white.* Feather of the seed glossy, with a yellow tinge.

Serratula. Ray's Syn. 196.

Serratula purpurea. Gerard. 713.

Serratula vulgaris flore purpureo. Park. 474.

Woods and pastures. P. July.

This is very much used by the Dyers to give a yellow colour ; but it is inferior to the YELLOW-WEED, therefore its use is confined to the coarser woollen cloths.—Goats eat it ; Horses are not fond of it ; Sheep, Swine and Cows refuse it.

SAW-WORT.

CHIVES and POINTALS Equal.

501

SAW-WORT. Cups somewhat hairy; egg-shaped. Leaves undivided—*Blossoms purple.* Mountain Alpina

Cirsium humile montanum Cynoglossi folio, polyanthemum, Ray's Syn. 193.

1. There is a variety with narrower leaves. *Ray's Syn. 193.*

On the highest mountains. P. July.

SAW-WORT. Leaves toothed; thorny.—*Blossoms pale pur- Corn*
pit. Feather of the seed very long. Arvensis

Carduus vulgarissimus viarum. Gerard. 1173. Ray's Syn. 194.

Carduus ceanothos sive viarum et vinearum repens. Park. 959.

Carduus vinearum repens, folio fonchi. Baub. pin. 317.

Way-thistle.

Corn-fields and road-sides. P. July.

It is said to yield a very pure vegetable alkaly when burnt,

Goats eat it; neither Cows, Horses, Sheep or Swine are fond of it.

325 LIVERHEMP. 935 Eupatorium,

EMPAL. Common, oblong; tiled. Scales betwixt strap and spear-shaped; upright; unequal.

BLOSS. Compound, uniform; tubular. Florets with chives and pointals. equal.

Individuals funnel shaped. Border with five clefts; open,

CHIVES. *Threads five; hair-like; very short. Tips forming a hollow cylinder.*

POINT. *Seedbud very small. Shaft thread-shaped; very long; cloven down to the chives; straight. Summits slender.*

S. VESS. None. *Cup unchanged.*

SEEDS. Oblong. *Feather downy; long,*

RECEPT. Naked.

LIVERHEMP. Leaves fingered. Five florets in each cup. Water
—*Blossoms pale red.*

Eupatorium Cannabinum. Baub. pin. 320. Park. 595. Ray's Syn. 179.

Eupatorium Cannabinum mas. Gerard. 711.

Eupatorium Cannabinum folio integro, seu non digitato. Ray's Syn. 180.

Hemp Agrimony. Dutch Agrimony. Water Agrimony, Water Hemp.

Banks of rivers and brooks. P. July—August.

An infusion of a handful of it vomits and purges smartly. An ounce of the root in decoction is a full dose. In smaller doses the Dutch peasants take it as an alterative and an antiscorbutic.—Goats eat it; Cows, Horses, Sheep and Swine refuse it.

326 CUDWORT. 943 Athanasia.

EMPAL. Common, tiled; egg-shaped. Scales spear-shaped; contiguous.

BLOSS. Compound, uniform; longer than the cup. Florets with chives and pointals equal; numerous. Individuals funnel-shaped. Border with five clefts, sharp; rather upright.

CHIVES. Threads five; hair-like; short. Tips forming a hollow cylinder.

POINT. Seedbud rather oblong. Shaft thread-shaped; a little longer than the chives. Summit cloven; blunt.

S. VESS. None. Cup unchanged.

SEEDS. Solitary; oblong. Feather set with very short bristles.

RECEPT. Chaffy; Chaff spear-shaped; longer than the seeds.

Obs. In the British Species the seeds have no feather.

Cudweed
Maritima

CUDWORT. One flower upon a fruit-stalk, forming a kind of broad-topped spike. Leaves spear-shaped; scalloped; blunt; downy—Blossoms yellow and white. As the seeds have no feather it might perhaps have been arranged under the Genus Santolina, (Lavender Cotton.)

Gnaphalium maritimum. Bauh. pin. 263. Ray's Syn. 180.

Gnaphalium maritimum. Gerard. 640. five Colonaria. Park. 687.

Filago maritima. Hudson. 328.

Sea Cudweed.

On the sea-shore. A. June—July.

327 DOUBLETOOTH. 932 Bidens.

EXAL. Common, upright; segments generally equal; oblong; concave and channelled.

BLOSS. Compound, uniform; tubular. Florets with chives and pointals, tubular.

Individuals funnel-shaped. Border with five clefts; upright.

CHIVES, Threads fives; hair-like; very short. Tips forming a hollow cylinder.

POINT. Seedbud oblong, Shaft simple; as long as the chives. Summits two; oblong; reflected.

S. VESS. None. Cup unchanged.

SEEDS. Solitary; blunt; angular. Crown of the Seed two or more awns, oblong; straight; sharp; rough with hooks turned backwards.

RECEPT. Chaffy; flat. Chaff deciduous.

DOUBLETOOTH. Leaves cloven into three segments. Hemp-leaved Caps somewhat leafy; seeds upright—*Blossoms yellow; termi- Tripartita nating.*

Verbesina, seu Cannabina aquatica flore minus pulchro, elatior, et magis frequens. Ray's Syn. 187.

Cannabina aquatica folio tripartito diviso. Bauh. pin. 321.

Eupatorium Cannabinum fœminineum Gerard. 711.

Eupatorium aquaticum dubium generum. Park. 595.

Trifid Water Hemp Agrimony.

Marshy places. A. July—August.

It dyes a tolerably good yellow.—Cows and Sheep eat it; Horses, Swine and Goats refuse it.

DOUBLETOOTH. Leaves spear-shaped; embracing the Nodding stem. Flowers on crooked fruit-stalks. Seeds upright—*Blossom Cernua dusky yellow.*

Verbesina pulchriore flore luteo. Ray's Syn. 187.

Cannabina aquatica folio non diviso. Bauh. pin. 321.

Eupatorium Cannabinum fœmina, varietas altera. Gerard. 711.

Eupatorium aquaticum folio integro. Park. 596.

Whole-leaved Water hemp Agrimony.

Ditches and marshes. A. July—August.

Goat eat it; Horses refuse it.

DOUBLETOOTH. Leaves spear-shaped; fitting. Flowers Small and seeds upright—Minima

Verbesina minima. Ray's Syn. 188. Tab. 7. fig. 2.

Least Water Hemp Agrimony.

Shallow Waters. A. July—August.

Order II. Superfluous Pointals.

328 SOUTHERNWOOD. 945 Artemisia.

EMPAL. Common, roundish; tiled. Scales rounded; approaching.

BLOSS. Compound. Florets with Chives and Pointals, many; tubular; placed in the center. Florets with only Pointals and almost without any petal, in the circumference.

Individuals with Chives and Pointals, funnel-shaped.
; Border with five clefts.

CHIVES. Threads five; hair-like; very short. Tips forming a hollow cylinder.

POINT. Seedbud in those that have chives and pointals small. Shaft thread-shaped; as long as the chives. Summit cloven; rolled back.

In the florets that have only pointals the Seedbud is very small. The Shaft thread-shaped, and longer than in the other; the Summit the same.

S. VESS. None. Cup hardly changed.

SEEDS. In all the florets solitary; naked.

RECEPT. Flat; naked, or woolly.

* Stems trailing before the time of flowering.

Field
Campestris

SOUTHERNWOOD. Leaves with many clefts, strap-shaped. Stems with long slender shoots, trailing—Bunches simple; alternate. Flowers solitary. Receptacle naked. Whilst in flower it stands more upright. Summits glass-shaped. There are about nine florets with only Pointals, and eight with Chives and Pointals in each common cup. Blossoms brown.

Abrotanum campestre. Baub. pin. 136. Gerard. 1106. Park.

94. Ray's Syn. 191.

High dry mountainous pastures. P. August.

Sheep refuse it.

Sea
Maritima

SOUTHERNWOOD. Leaves deeply divided into many parts; downy. Bunches on crooked fruit-stalks. Florets with only Pointals, three.—Receptacle naked. The whole plant is white; except the Blossoms which are brown. The leaves are more or less divided in different situations.

Absinthium marinum album. Gerard. 1099. Ray's Syn. 183.

Absinthium seriphicum Belgicum. Baub. pin. 159.

Absinthium marinum nostras. Ray's Syn. 189.

Sea-Wormwood. Roman Worm-wood.

On the Sea-coast. P. August.

This in its wild state smells like Marum or Camphor, but in our gardens it is less grateful, though still much more grateful than the next species. It is used as an ingredient in distilled waters, and beat with thrice its weight of fine sugar it is formed into

into a conserve. Its virtues are the same with those of the next species, but in a weaker degree.—Horses eat it; Cows, Goats and Sheep refuse it.

* * *Stems upright; herbaceous.*

SOUTHERNWOOD. Leaves compound, with many clefts. Wormwood Flowers somewhat globular; pendant. Receptacle woolly.—*Abfinthium* Leaves dark green on the upper, but white on the under surface. Blossoms brownish white.

Abfinthium vulgare. Park. 98. Ray's Syn. 188.

Abfinthium latifolium, seu *Ponticum*. Gerard. 1096.

Abfinthium ponticum, seu *Romanum officinarum*, seu *Dioscoridis*. Baub. pin. 138.

Common Worm-wood. Mug-wort.

Road-sides. Rocky places and among rubbish. P. August.

The leaves and flowers are very bitter; the roots are warm and aromatic. A considerable quantity of essential oil rises from it in distillation. This oil is used both externally and internally to destroy Worms—The leaves put into sour beer, soon destroy the acescency—They resist putrefaction, and are therefore a principal ingredient in antiseptic fomentations. An infusion of them is a good stomachic, and with the addition of fixed alkaline salt, a powerful diuretic in dropical cases—The ashes afford a more pure alkaline salt than most other vegetables, excepting Bean-stalks, Broom, and the larger trees.—In the *Ann. Acad. v. 2. p. 160.* Linnæus mentions two cases, where—in an essence prepared from this plant and taken for a considerable time, prevented the formation of stones in the kidneys or bladder; the patients forbearing the use of wine and acids. It may, like other bitters, weaken the action of the nervous system, but in these instances no such effect took place—An infusion of it given to a woman that suckles, makes her milk bitter—It gives a bitterness to the flesh of Sheep that eat it; Horses and Goats are not fond of it; Cows and Swine refuse it.

SOUTHERNWOOD. Leaves with winged clefts; flat; jagged; downy on the under side. Flowers in bunches; simple; Vulgaris much curved. Five florets in the circumference of each flower.—*Receptacle naked.* Blossoms purplish.

Artemisia vulgaris. Park. 90. Ray's Syn. 190. Gerard. 1103. major. Baub. pin. 137.

Mugwort. Mother-wort.

Borders of fields. Ditch-banks. P. August.

In some countries it is used as a culinary aromatic—A decoction of it is taken by the common people to cure the Ague. Sheep and Swine refuse it; neither Horses, Cows or Goats are fond of it. The Wormwood Louse, *Aphis Abfinthii* and the Lambda Moth, *Phalaena Gamma*, live upon the several species.

329 TANSEY. 944 Tanacetum.

EMERAL. Common, hemispherical; tiled. Scales sharp; compact.

BLOSS. Compound, tubular; convex. Florets with Chives and Pointals, numerous; tubular; placed in the center. Florets with only Pointals, a few in the circumference.

Individuals with Chives and Pointals, funnel-shaped. Border with five clefts; reflected.

Individuals with only Pointals with three clefts, more deeply divided on the inner side.

CHIVES. Threads five; hair-like; very short. Tips forming a hollow cylinder.

POINT. Seedbud, where there are chives and pointals, oblong; small. Shaft thread-shaped; as long as the chives. Summit cloven; rolled back. Seedbud, where there are only pointals, oblong. Shaft simple. Summits two; reflected.

S.VESS. None. Cup unchanged.

SEEDS. Solitary; oblong; naked.

RECEPT. Convex; naked.

Common
Vulgar

TANSEY. Leaves doubly winged; jagged; serrated.—
Blossoms yellow.

Tanacetum. Gerard. 650. Ray's Syn. 188. vulgare. Park. 81.

Tanacetum luteum. Bauh. pin. 132.

1. There is a variety with curled leaves called double Tansey.
Bauh. pin. 132.

2. Another with variegated leaves; and a third with larger leaves and but little smell.

High pastures. P. August.

This is a warm deobstruent bitter, and its flavour not ungrateful.—The tender leaves are sometimes used to give a colour and flavour to puddings.—If a dead animal substance is rubbed with this plant, the flesh fly will not attack it.—The Finlanders obtain a green dye from it.—Cows and Sheep eat it; Horses, Goats and Swine refuse it. It gives nourishment to the Tansey Loufe, *Aphis Tanacetii*; and to the *Chrysomela Tanacetii*.

330 SPIKENARD. 950 Conyza.

EMERAL. Common. tiled; oblong; scurfy. Scales sharp; the outer ones a little expanded.

BLOSS. Compound, tubular. Florets with Chives and Pointals numerous; tubular; in the center. Florets with only Pointals and without petals, circular; in the circumference.

Individuals with Chives and Pointals funnel-shaped. Border with five clefts; open.

Individuals with only Pointals, funnel-shaped. Border cloven into three segments.

CHIVES. Threads five; hair-like; very short. Tips forming a hollow cylinder.

POINT. Seedbud, where there are chives and pointals, oblong. Shaft as long as the chives; thread-shaped. Summit cloven.

Seedbud, where there are only pointals, oblong. Shaft thread-shaped; as long, but more slender than the other. Summits two; very slender.

S. VESS. None: the cup closing.

SEEDS. In all the florets, solitary; oblong. Feather simple.

RECEPT. Naked; flat.

SPIKENARD. Leaves spear-shaped; sharp. Stem herba. Plowman's ceous. Flowers in a broad-topped spike. Cups scurfy—*Blossoms Squarrosa* *daisy purple or yellowish.*

Conyza major vulgaris. Baub. pin. 265.

Baccharis monspeliensis. Gerard. 792. Park. 114. Ray's Syn. 179.

Great Fleabane.

High Grounds and road-sides. B. July—August.

331 CATSFOOT. 946 Gnaphalium.

EMFAL. Common, roundish; tiled. Scales egg-shaped; approaching; the upper ones more flexible.

BLOSS. Compound. Florets with Chives and Pointals, tubular; sometimes mixed with the other florets without either chives or petals.

Individuals, with Chives and Pointals, funnel-shaped. Border with five clefts; reflected.

Individuals with only Pointals, without petals.

CHIVES. Threads five; hair-like; very short. Tips forming a hollow cylinder.

POINT. Seedbud, where there are chives and pointals, egg-shaped. Shaft thread-shaped; as long as the chives. Summit cloven.

Seedbud, where there are only pointals, egg-shaped. Shaft thread-shaped; as long as the other, Summit cloven; reflected.

S. VESS. None. Cup permanent; shining.

SEEDS. In all the florêts solitary; oblong; small; crowned with a Feather.

RECEPT. Naked.

OBS. In some species the Feather is hair-like; in others downy, In one species the Chives and Pointals are on distinct plants.

Jersey
Luteo-album

CATSFOOT. Stem herbaceous. Leaves sword-shaped; half embracing the stem; serpentine at the edge; blunt; downy on both surfaces. Flowers crowded close together—The whole plant is very woolly. Cups yellowish white; soft; with scales betwixt egg and spear-shaped. Florets with only pointals, in the circumference; numerous.

Gnaphalium majus lato oblongo folio. Bauh. pin. 263.

Elichrysum sylvestre latifolium capitulis conglobatis. Bauh. pin. 264. Ray's Syn. 182.

Jersey Cudweed.

In the Isle of Jersey, on walls and dry banks. A. July—August.

CATSFOOT.

CATSFoot. Stem herbaceous. Leaves betwixt strap and Pearly
 spear-shaped; tapering; alternate. Stem branched towards the top. Margaritace-
 Flowers in broad-topped level spikes—*Blossoms yellowish green.* um

Gnaphalium Americanum. Gerard. 641. Ray's Syn. 182.

Gnaphalium Americanum latifolium. Baub. pin. 263.

Argyrocome, seu *Gnaphalium Americanum.* Park. 690.

American Cudweed.

Meadows, pastures, and banks of rivers. P. August.

CATSFoot. Runners trailing. Stem undivided. Flowers Mountain
 in a simple broad-topped spike. Chives and pointals on distinct Dioicum
 plants—*In the barren florets the cups are almost globular; but in the*
fertile ones nearly cylindrical. Blossoms white; purple or reddish;
 terminating.

Gnaphalium montanum suave rubens. Gerard. 641.

Gnaphalium montanum, flore rotundiore. Baub. pin. 263.

The above are the synonyms of the plant bearing only barren
 flowers—The following those of the other bearing fertile flowers.

Gnaphalium montanum album. Gerard. 640. Ray's Syn. 181.

Gnaphalium montanum five Pes Catii. Park. 690.

Gnaphalium longiore folio et flore. Baub. pin. 263.

It is somewhat remarkable that no one of our Botanists appear
 to have observed both these plants, tho' both it is evident, are
 absolutely necessary to perpetuate the species.

Mountain Cudweed.

On heaths and dry hilly pastures. P. May.

Horses Sheep and Swine eat it; Cows and Goats refuse it.

CATSFoot. Stem herbaceous; undivided; upright. Upright
 Flowers scattered—*Leaves narrow; sharp; downy on the under* Sylvaticum
surface, Cups white; shining. Blossoms yellowish.

Gnaphalium Anglicum. Gerard. 639. Ray's Syn. 180.

Gnaphalium Anglicum vulgare majus. Park. 685.

Gnaphalium majus, angusto oblongo folio, alterum. Baub.
 pin. 263.

Upright Cudweed.

Sandy woods and pastures. B. August.

Goats eat it.

CATSFoot. Stem herbaceous; with spreading branches. Black
 Flowers crowded together; terminating—*Blossoms yellowish;* Uliginosum
Cups brown, or black.

Gnaphalium longifolium humile ramosum capitulis nigris.
 Ray's Syn. 181.

Gnaphalium medium. Baub. pin. 263.

Filago minor. Park. 686.

Black-headed Cudweed.

In watery places. A. August.

Goats and Cows refuse it.

332 DAISIE.

332 DAISIE. 962 Bellis.

EMPAL. *Common* simple; upright. *Little Leaves* from ten to twenty, placed in a double row; spear-shaped; equal.

BLOSS. *Compound*, radiate. *Florets with chives and Pointals*, tubular; numerous; placed in the centre. *Florets with only pointals*, narrow; more in number than the leaves of the cup; placed in the circumference.

Individuals with chives and pointals funnel-shaped; with five clefts.

Individuals with only pointals narrow; spear-shaped; very slightly marked with three teeth.

CHIVES. *Threads* five; hair-like; very short. *Tips* forming a hollow cylinder.

POINT. *Seedbud* where there are chives and pointals, egg-shaped. *Shaft* simple. *Summit* notched at the end.

Seedbud where there are only pointals, egg-shaped.

Shaft thread-shaped. *Summits* two; standing wide.

S.VESS. None. *Cup* unchanged.

SEEDS. In all the florets, solitary; inversely egg-shaped; compressed. *Feather* none.

RECEPT. Naked; conical.

Common
Perennis

DAISIE. Stalk naked.—*Leaves oblong; blunt; notched; spread upon the ground. Florets in the center yellow: those in the circumference white above, pink beneath. By cultivation the blossom becomes double and either all red, or red and white.*

Bellis sylvestris minor. Baub. pin. 261. Ray's Syn. 184.

Bellis minor sylvestris. Gerard. 635. simplex. Park. 530.

Pastures. P. March—September.

The leaves are slightly acrid. The roots have a penetrating pungency. No attention is paid to it except what it claims from the beauty of its flowers—The flowers close at night—Horses, Sheep, and Cows refuse it.

333 FEVERFEW. 967 Matricaria.

EMPAL. Common, hemispherical. Scales strap-shaped ; tiled ; not quite equal.

BLOSS. Compound, radiate. Florets with chives and pointals tubular ; numerous ; placed in the center ; which is hemispherical. Florets with only pointals many ; placed in the circumference.

Individuals with chives and pointals, funnel-shaped ; with five clefts ; expanding.

Individuals with only pointals, oblong ; with three teeth.

CHIVES Threads five ; hair-like ; very short. Tips forming a hollow cylinder.

POINT. Seedbud, where there are chives and pointals, oblong ; naked. Shaft as long as the chives ; thread-shaped. Summit cloven ; expanding.

Seedbud, where there are only pointals naked. Shaft thread shaped ; as long as the other. Summits two ; rolled back.

S.VESS. None. Cup unchanged.

SEEDS. In all the florets, solitary ; oblong. Feather none.

RECEPT. Naked ; convex.

FEVERFEW. Leaves compound ; flat. Little leaves egg-shaped jagged. Fruit-stalks branched. — *Naked*. Florets yellow in Parthenium the centre ; white in the circumference ; double by cultivation.

Matricaria. Gerard. 632. Ray's Syn. 187. vulgaris. Park. 83.

Matricaria vulgaris seu fativa. Baub. pin. 132.

Ditch-banks and amongst rubbish. P. or B. June.

The whole plant has a strong smell, and a bitter taste : it yields an essential Oil by distillation.

FEVERFEW. Receptacles hemispherical. Leaves doubly Sea winged, and somewhat fleshy ; convex on the upper side, and Maritime keeled beneath. — Florets in the center yellow ; those in the circumference white.

Chamaemelum maritimum perenne humiliss, foliis brevibus crassis, obscure virentibus. Ray's Syn. 186. Tab. 7. fig. 1.

On the coast of Sussex. P. July.

FEVERFEW.

- Sweet-scented
Suaveolens **FEVERFEW.** Receptacles conical; rays bent downwards. Scales of the cup equal at the edge—*Florets in the center yellow; those in the circumference white.*
Sandy ground. A. May.
Goats, Sheep and Horses eat it; Swine refuse it.
- Chamomile
Chamomilla **FEVERFEW.** Receptacles conical; rays expanding. Scales of the cup equal at the edge.—*Leaves more than doubly compound, with slender segments. Florets in the center yellow; those in the circumference white.*
Chamæmelum. Gerard. 754. Ray's Syn. 184. vulgare. Park. 85.
Chamæmelum vulgare, Leucanthemum Dioscoridis. Bauh. pin. 135.
Corn Feverfew.
Corn-fields. A. June.
Its properties resemble those of the *Sweet-scented CHAMOMILE.*
The Finlanders use an infusion of it in Consumptive cases. —
Cows, Goats and Sheep eat it; Horses are not fond of it; Swine refuse it.

334 GOLDINS. 966 Chrysanthemum.

REPAL. Common, hemispherical; tiled. Scales lying close upon each other. The Inner Ones becoming gradually larger; the very innermost terminating in a skinny substance.

BLOSS. Compound, radiate. Florets with Chives and Pointals numerous; tubular; placed in the center. Florets with only Pointals, twelve or more; placed in the circumference.

Individuals with Chives and Pointals, funnel-shaped; with five clefts; open; as long as the cup.

Individuals with only Pointals narrow; oblong; with three teeth.

CHIVES. Threads five; hair-like; very short. Tips forming a hollow cylinder; generally shorter than the blossom.

POINT. Seedbud, where there are chives and pointals, egg-shaped. Shaft thread-shaped; longer than the chives. Summits two; rolled back.

Seedbud where there are only pointals, egg-shaped. Shaft thread-shaped; as long as the other. Summits two; blunt; rolled back.

S. VESS. None. Cup unchanged.

SEEDS. In all the florets solitary; oblong. Feather none.

RECEPT. Naked; dotted; convex.

Obs. In the first division of the species, the florets that have only pointals are spear-shaped, and the membranes of the cup are narrow. But in the second division they are egg-shaped and lopped, and the membranes of the cup are egg-shaped.

* Radiate Florets white.

GOLDINS. Leaves embracing the stem; oblong; upper leaves serrated; lower ones toothed—Florets in the center yellow; those in the circumference white. Daisie Leucanthemum

Leucanthemum vulgare. Ray's Syn. 184.

Bellis major. Gerard. 634.

Bellis major vulgaris, seu sylvestris. Park. 528.

Bellis sylvestris caule folioso major. Baub. pin. 261.

Greater Daisie. Ox-Eye.

Corn-fields and dry pastures. P. May.

The young leaves may be eaten in sallads.—Horses, Sheep and Goats eat it; Cows and Swine refuse it.

Scentless
Inodorum

GOLDINS. Leaves winged; with many clefts. Stem branched; spreading—*Cups skinny at the edge. Florets in the center yellow; those in the circumference white. Seeds black.*

Chamæmelum inodorum annuum humilium, foliis obscure virentibus. Ray's Syn. 186.

Matricaria inodora. Hudson. 322.

Field Feverfew.

Road-sides. A. August.

* * *Florets all yellow.*

Yellow
Segetum

GOLDINS. Leaves embracing the stem; upper leaves jagged; lower ones toothed and serrated.—*Blossoms yellow.*

Chrysanthemum Segetum. Gerard. 743. Ray's Syn. 182. nostras. Park. 1370.

Bellis lutea, foliis profunde incis, major. Bauh. pin. 262.

1. It varies in the leaves being more or less jagged.

Corn Marigold. Goulans. Goldins.

Corn-fields. A. June—July.

335 ELECAMPANE. 956 Inula.

EMPAL. Common, tiled: *Little Leaves* flexible; open: the outer ones the largest; equal in length.

BLOSS. Compound, radiate; broad. *Florets with Chives and Pointals*, equal; very numerous; placed in the center. *Florets with only Pointals* narrow; numerous; crowded; placed in the circumference.

Individuals with Chives and Pointals funnel-shaped; *Border* with five clefts; somewhat upright.

Individuals with only Pointals, narrow; strap-shaped; very entire.

CHIVES. *Threads* five; thread-shaped; short. *Tips* five; narrow; united; forming a hollow cylinder; each tip ending at the base in two straight bristles, as long as the threads.

POINT. *Seedbud*, where there are both chives and pointals, long. *Shaft* as long as the chives; thread-shaped. *Summit* cloven; a little upright.

Seedbud, where there are only pointals, long. *Shaft* thread-shaped; a little cloven. *Summits* upright.

S. VESS. None. *Cup* unchanged.

SEEDS. In all the florets, solitary; narrow; with four angles. *Feather* simple; as long as the seed.

RECEPT. Naked; flat.

OBS. *The essential character of this genus consists in the two bristles fixed to the lower part of each tip.*

ELECAMP-

ELECAMPANE. Leaves embracing the stem; egg-shaped; Common wrinkled; downy underneath. Scales of the cup egg-shaped. Helenium
—*Blossoms yellowish green.*

Helenium. *Gerard.* 795. *Ray's Syn.* 176. *vulgare.* *Baub.*
pin. 276.

Helenium sive *Enula campana.* *Park.* 674.

Moist meadows. P. July—August.

The root is esteemed a good pectoral. Dr. Hill says he knows from his own experience, that an infusion of the fresh root sweetened with Honey, is an excellent medicine in the Hooping Cough—A decoction of the root cures Sheep that have the Scab.
—Horses and Goats eat it; Cows, Sheep and Swine refuse it.

ELECAMPANE. Leaves embracing the stem; oblong heart-shaped. Stem woolly; flowers in panicles. Scales of the cup brittle-shaped—*The scales of the cup are somewhat awl-shaped; soft; bent back; coloured at the edges.* Blossoms yellow. Autumnal Dysenterica

Conyza media. *Gerard.* 482. *Ray's Syn.* 174.

Conyza media asteris, flore luteo, vel tertia Dioscoridis.
Baub. pin. 265.

Middle Fleabane.

Banks of rivers. P. August.

It hath a peculiar acrid smell—The Russian Soldiers, in the Persian expedition under General Keit, were much troubled with the Bloody Flux, which was cured by the use of this plant.
—Cows are not fond of it; Goats and Sheep refuse it.

ELECAMPANE. Leaves embracing the stem; waved at the edges. Stem prostrate. Flowers nearly globular; rays very short—*Blossoms yellow.* Small Pulicaria

Conyza minor. *Ray's Syn.* 174.

Conyza minima. *Gerard.* 482.

Conyza minor flore globoso. *Baub. pin.* 266.

Small Fleabane.

1. There is a variety still smaller.

Where waters stagnate in winter. A. August—September.

Sheep eat it; Horses, Cows and Goats refuse it.

ELECAMPANE. Leaves strap-shaped; fleshy; three-pointed Samphire
—*Blossom yellow; terminating.* Crithmoides

Aster maritimus flavus, Crithmum Chrysanthemum, dictus.
Ray's Syn. 174.

Crithmum Chrysanthemum. *Gerard.* 533. *Park.* 1287.

Crithmum maritimum flore Asteris attici. *Baub. pin.* 288.

Golden Samphire.

On the sea-coast. P. August.

336 FLEABANE. 951 Erigeron.

EMPALE. Common, oblong; cylindrical; tiled. Scales awl-shaped; upright; gradually longer; nearly equal.

BLOSS. Compound, radiate. Florets that have both Chives and Pointals, tubular; placed in the center. Florets that have only Pointals, narrow; placed in the circumference.

Individuals with Chives and Pointals, funnel-shaped. Border with five clefts.

Individuals with only Pointals, narrow; between strap and awl-shaped; upright; generally very entire.

CHIVES. Threads five; hair-like; very short. Tips forming a hollow cylinder.

POINT. Seedbud, where there are chives and pointals, very small; crowned with a feather, longer than its blossom. Shaft thread-shaped; as long as the feather. Summits two; oblong; rolled back.

Seedbud, where there are only pointals, very small; crowned with a feather; nearly as long as its blossom. Shaft hair-like; as long as the feather. Summits two very slender.

S. VESS. None. Cup closing.

SEEDS. In all the florets, oblong; small. Feather long.

RECEPT. Naked; flat.

Obs. There are sometimes florets in the central part that have only chives and no pointals.

In one species the florets with only pointals have no blossoms.

Canada
Canadense

FLEABANE. Stem supporting panicles of flowers—Florets in the center yellow; those in the circumference white with a tinge of red.

Conyza canadensis annua, acris, alba, *Linariae foliis*. Ray's Syn. 175.

Amongst rubbish. A. August.

Blue
Acre

FLEABANE. Fruit-stalks alternate; each supporting a single flower—Florets in the center yellow; those in the circumference purple.

Conyza caerulea acris. Gerard. 484. Bauh. t. in. 265.

Conyza odorata caerulea. Park. 126.

Aster arvensis, caeruleus, acris. Ray's Syn. 175.

Blue-flowered Fleabane.

Dry pastures. P. July—September.

The Germans take a decoction of it to attenuate viscid Phlegm.

—Cows and Goats refuse it.

337 GOLDEN-

SUPERFLUOUS POINTALS.

517

337 GOLDENROD. 955 Solidago.

EMPAL. *Common*, oblong; tiled. *Scales* oblong; narrow; tapering; straight; approaching.

BLOSS. *Compound*, radiate. *Florets* with *Chives* and *Pointals*, tubular; numerous; placed in the center. *Florets* with only *Pointals*, narrow; from five to ten; placed in the circumference.

Individuals with *Chives* and *Pointals*, funnel-shaped; *Border* with five clefts; open.

Individuals with only *Pointals*, narrow; spear-shaped; with three teeth.

CHIVES. *Threads* five; hair-like; very short. *Tips* forming a hollow cylinder.

POINT. *Seedbud*, where there are both chives and pointals, oblong. *Shaft* as long as the chives; thread-shaped. *Summit* cloven; expanding.

Seedbud, where there are only pointals, oblong; *Shaft* thread-shaped; as long as the other. *Summits* two; rolled back.

S. VESS. None. *Cup* but little changed.

SEEDS. In all the florets; solitary; oblong; inversely egg-shaped. *Feather* hair-like.

RECEPT. Flat; naked.

GOLDENROD. Stem somewhat zigzag; angular. Flowers Common crowded in paniced bunches; upright—*Leaves* betwixt egg and spear-shaped. Blossoms yellow. *Virga-aurea*

Virga aurea. Gerard. 429. Ray's Syn. 176. vulgaris. Park.

542. *Virga aurea latifolia ferrata*. Baub. pin. 268.

Woundwort.

Woods, hedges and heaths. P. August.

Variet es.

1. With leaves narrower, and more slightly ferrated.

Virga aurea IV, five angustifolia minus ferrata. Baub. pin.

568. 2. With leaves narrower; slightly ferrated; growing on long leaf-stalks; and flowers larger, rising from the base of the leaves, and collected into a kind of spike. Ray's Syn. ib.

Virga aurea vulgari humilior. Ray's Syn. 176.

In Ireland, and on Hampstead-heath.

Horses, Cows, Sheep, Goats and Swine eat it.

Welch
Cambrica

GOLDENROD. Leaves between strap and spear-shaped; somewhat serrated; hoary; with flowers growing in a panicle like a sort of broad-topped spike, and terminating the stem. *Huds. Fl. Angl.* 319. *Mart. Cat. Cant.* 158.

Virga aurea montana, folio angusto sub incano, flosculis conglobatis. *Ray's Syn.* 177.

In mountainous pastures in Wales. P. June.

338 FLEAWORT. 957 Cineraria.

EMPAL. Common, simple; of many leaves. *Little Leaves* equal.

BLOSS. Compound, radiate. *Florets with Chives and Pointals*, equal; numerous; in the center. *Florets with only Pointals* narrow; equal in number to the leaves of the empalement; in the circumference.

Individuals with Chives and Pointals, funnel-shaped; with five clefts; upright.

Individuals with only Pointals, narrow; spear-shaped; with teeth at the end.

CHIVES. *Threads five*; thread-shaped; short. *Tips* forming a hollow cylinder, with five clefts at the top.

POINT. *Seedbud*, where there are both chives and pointals, oblong. *Shaft* thread-shaped; as long as the chives. *Summits* two; a little upright.

Seedbud, where there are only pointals, oblong. *Shaft* thread-shaped; short. *Summits* two; oblong; rather blunt; rolled back.

S. VESS. None. *Cup* unchanged.

SEEDS. In all the florets, solitary; narrow; with four angles. *Feather* hairy; in large quantity.

RECEPT. Naked; rather flat.

Marsh
Palustris

FLEAWORT. Flowers in broad-topped spikes. *Leaves* broad; spear-shaped; toothed and indented. *Stem* woolly—*The Leaves cover the stem quite up to the flowers.* Blossoms yellow.

Conyza foliis laciniatis. *Gerard.* 483. *Ray's Syn.* 174.

Conyza aquatica laciniata. *Baub. pin.* 266.

Conyza helenitis foliis laciniatis. *Park.* 126.

Othonna palustris. *Hudson.* 327.

Marsh Fleabane.

1. There is a variety in which the leaves embrace the stem, and the teeth and indentures are not very evident.

In Marshes and wet ditches. P. August.

FLEAWORT.

FLEAWORT. Flowers in rundles. Leaves spear-shaped Mountain woolly ; furnished with little teeth—*Fruit-stalks not leafy.* Blof- Integrifolia
foms yellow.

Jacobæa montana lanuginosa angustifolia non laciniata, Baub.
pin. 131

Jacobæa pannonica folio non laciniata. Ray's Syn. 178.

Jacobæa angustifolia. Gerard. 280.

Jacobæa angustifolia panonica non laciniato. Park. 668,

Othonna integrifolia. Hudson, 327.

Mountain Rag-wort.

Hilly pastures. P. June,

339 GROUNDSEL. 953 Senecio.

EMFAL. Common, double ; conical ; lopped. Scales awl-shaped ; numerous ; contiguous ; equal ; dead at the ends ; parallel ; contracted above into a cylinder ; the base tiled by a few scales.

BLOSS. Compound, taller than the cup. Florets with Chives and Pointals tubular ; numerous ; in the center. Florets with only Pointals, (if any such there are) narrow ; in the circumference.

Individuals with Chives and Pointals, funnel-shaped. Border reflected ; with five clefts.

Individuals with only Pointals, (if any) oblong ; with three imperfect teeth.

CHIVES. Threads five ; hair-like ; very small. Tips forming a hollow cylinder.

POINT. Seedbud, in both sorts of florets, egg shaped.

Shaft thread-shaped ; as long as the chives. Summits two ; oblong ; rolled back.

S.VESS. None. Cup closing so as to form a cone.

SEED. In both sorts of florets, solitary ; egg-shaped.

Feather hairy ; long.

RECEP. Naked, flat.

Obs. In some species the florets are radiate in the circumference ; in others they are all tubular.

* *Flowers without Rays.*Common
Vulgaris

GROUNDSEL. Flowers not radiate. Leaves indented into wings; embracing the stem. Flowers scattered.—*Blossoms yellow; terminating.*

Senecio vulgaris. Park. 671. Ray's Syn. 178.

Senecio minor vulgaris. Baub. pin. 131.

Erigeron. Gerard. 276.

Simpson.

In gardens and amongst rubbish. A. May.

The bruised leaves are a good application to Boils—The seeds are very acceptable to Linnets and Gold-finches when confined in cages.—Cows are not fond of it; Goats and Swine eat it; Horses and Sheep refuse it.

* * *Flowers with Rays; the Rays rolled backwards.*Cotton
Viscosus

GROUNDSEL. Blossoms in the circumference rolled backwards. Leaves with winged clefts: clammy. Scales of the em-palement flexible; as long as the cup.—*The whole plant is furnished with hairs, which pour out a clammy liquor. Fruit-stalks lateral; supporting two or three flowers. Blossoms yellow.*

Senecio incanus pinguis. Baub. pin. 131.

Senecio hirsutus viscidus major odoratus. Ray's Syn. 178.

Senecio fatidus. Park. 671.

Stinking Groundsel.

Sandy places. A. June.

Wood
Sylvaticus

GROUNDSEL. Blossoms in the circumference rolled backwards. Leaves with winged clefts, and little teeth. Stem upright; supporting a broad-topped spike of flowers.—*Blossoms yellow.*

Senecio minor latiore folio, five montanus. Baub. pin. 131. Ray's Syn. 178.

Erigerum. Gerard. 279.

Mountain Groundsel.

Woods, hedges and heaths. A. July.

* * * *Flowers with expanding Rays. Leaves with winged Clefts.*Hoary
Erucifolius

GROUNDSEL. Flowers with rays. Leaves with winged clefts and toothed; a little hairy. Stem upright—*Downy; white. Blossoms yellow.*

Jacobæa senecionis folio incano perennis. Ray's Syn. 177.

Hoary perennial Rag-wort.

Woods and hedges. P. July.

GROUNDSEL.

GROUNDSEL. Flowers with rays. Leaves lyre-shaped; Ragwort almost winged. Segments jagged. Stem upright—*Blossoms yel.* Jacobæa yellow; on branched fruit-stalks.

Jacobæa vulgaris. Ray's Syn. 177. major. Park. 668.

Jacobæa. Gerard. 280. vulgaris laciniata. Bauh. pin. 131.

Rag-wort. Seggrum. St. James's Wort.

1. Flowers without rays.

Jacobæa vulgaris flore nudo. Ray's Syn. 177.

Grows in great plenty near the sea-shore about three or four miles from Drogheda. Some few however amongst them, are found with radiated flowers. Perhaps this variety is only the effect of the sea air, as it is well known how destructive that is to the more tender parts of vegetables.

If this plant is gathered before the flowers open, and used fresh, it dyes wool of a full green, but the colour is apt to fade. If woollen cloth is boiled in Alum-water, and then in a decoction of the flowers, it takes a beautiful deep yellow.

Road-sides; pastures. P. July.

Horses and Sheep refuse it. Cows are not fond of it.

GROUNDSEL. Flowers with rays; leaves toothed: those at the root egg-shaped; those of the stem with winged clefts; Water the outer segments larger than the rest. Hudf. Fl. Ang. 317.

Jacobæa latifolia palustris sive aquatica. Ray's Syn. 178.

Jacobæa latifolia. Gerard. 280.

Jacobæa latifolia pannonica prima. Park. 658.

Jacobæa alpina laciniato flore Bupthalmi. Bauh. pin. 131.

Broad-leaved Rag-weed.

Mostly in watery places. P. July—August.

**** Flowers with Rays. The Rays expanding. Leaves undivided.

GROUNDSEL. Flowers with rays. Leaves sword-shaped, Marsh sharply serrated; a little woolly on the under-side. Stem stiff Paludofus and straight—Sometimes the leaves are downy on both surfaces. Blossoms yellow.

Virgæ aureæ sive solidagini angustifolia affinis; lingua avis Dalechampii. Ray's Syn. 176.

Conyza palustris. Park. 1231. ferratifolia. Bauh. pin. 266.

Marsh Rag-wort. Bird's-tongue.

Ditches and Marshes. P. August.

GROUNDSEL.

Broad-leaved **GROUNDSEL.** Flowers with rays ; in broad-topped spikes.
 Sarracenicus Leaves spear-shaped ; ferrated ; almost smooth—*Roots creeping very much.* Blossoms yellow.

Virga aurea angustifolia ferrata. *Raub. pin.* 268.

Virga aurea maxima, radice repente. *Ray's Syn.* 177.

Broad-leaved Rag-wort.

Wet pastures, hedges and woods. P. July—August.

The Ruby Tyger Moth, *Phalena Fuliginosa* ; the Cinnabar Moth, *Phalena Jacobea*, and the great yellow underwing Moth, *Phalena Pronuba*, live upon the several species.

340 BUTTERBUR. 952 Tussilago.

EMFAL. Common, cylindrical. Scales spear-shaped ; narrow ; equal ; fifteen or twenty in number.

BLOSS. Compound, various. Florets with Chives and Pointals, in some species are all tubular, in others only tubular in the center.

Florets with only Pointals, in some species narrow ; in others entirely wanting.

Individuals with Chives and Pointals, funnel-shaped. Border with four or five clefts ; sharp ; reflected ; longer than the empalement.

Individuals with only Pointals either none at all, or very narrow ; entire ; longer than the empalement.

CHIVES. Threads five ; hair-like ; very short. Tips forming a hollow cylinder.

POINT. Seedbud, where there are chives and pointals, short. Shaft thread-shaped ; longer than the chives. Summit thickish.

Seedbud, where there are only pointals, short. Shaft thread-shaped ; as long as the other. Summit thickish ; cloven.

S. VESS. None. Cup but little changed.

SEEDS. In all the florets, solitary ; oblong ; compressed.

Feather hairy ; standing on a pillar.

RECEPT. Naked.

OBS. In the second and third species there are no narrow florets in the circumference, but there are florets with only pointals, without blossoms. The first species hath always narrow florets in the circumference, furnished only with pointals.

BUTTERBUR.

BUTTERBUR. Stalk tiled; supporting a single flower. Coltsfoot
Leaves somewhat; heart-shaped; angular; toothed—*Appearing* Farfara
after the flower. Blossoms yellow.

Tussilago. Gerard. 811. Park. 1220. Ray's Syn. 173. vulgaris.
Bauh. pin. 197.

Common Coltsfoot.

Moist stiff marly lands, and amongst lime-stone rubbish. P.
March.

The downy substance on the under surface of the leaves,
makes good Tinder—The leaves are the basis of the British Herb
Tobacco—They are somewhat austere, bitterish, and mucilagi-
nous to the taste—They were formerly much used in Coughs and
Consumptive complaints; and perhaps not without reason, for
Dr. CULLEN has found them to do considerable service in Scro-
phulous cases. he gives a decoction of the dried leaves, and finds
it succeed where sea-water has failed—*Cullens Mat. Med.* p.
458.—Goat and Sheep eat it: Cows are fond of it: Horses and
Swine refuse it.

BUTTERBUR. Flowers in an oblong cluster. Florets with Tall
only pointals numerous; without blossoms—*Florets tubular.* Hybrida

Petasites major, floribus pediculis longis infidentibus. Ray's
Syn. 179.

Long stalked Butter-bur.

Moist pastures. P. March.

BUTTERBUR. Flowers in an egg-shaped cluster. Florets
with only pointals few, and without blossoms—*Florets all tubular.* Common
The flowers appear before the leaves, which is likewise the case with Petasites
the first species. Blossoms pale red.

Petasites. Gerard. 814. Ray's Syn. 179. vulgaris. Park. 419.

Petasites major et vulgaris. Bauh. pin. 197.

Moist sandy places. P. March—April.

The roots abound with a resinous matter. They have a strong
smell and a bitterish acid taste.—Horses, Cows, Goats and Sheep
eat it.

341 STARWORT: 954 After.

EMPALE. *Common*, tiled with scales. The inner scales standing out at the points.

BLOSS. *Compound*, radiate. *Florets with Chives and Pointals*, numerous; placed in the center. *Florets with only Pointals*, ten or more; narrow; placed in the circumference.

Individuals with Chives and Pointals, funnel-shaped. *Border* with five clefts; open.

Individuals with only Pointals, narrow; spear-shaped; with three teeth.

CHIVES. *Threads* five; hair-like; very short. *Tips* forming a hollow cylinder.

POINT. *Seedbud*, where there are both chives and pointals, oblong. *Shaft* thread-shaped; as long as the chives.

Summit cloven expanding.

Seedbud, where there are only pointals, oblong. *Shafts* the same as the other. *Summits* two; oblong; rolled back.

S.VESS. None. *Cup* but little changed.

SEEDS. In all the florets, solitary; oblong; egg-shaped.

Feather hairy.

RECEPT. Naked; almost flat.

Sea
Tripodium

STARWORT. Leaves spear-shaped; very entire; fleshy; smooth. Branches flattened. Flowers in broad topped spikes.—*Florets in the center yellow: those in the circumference blue.*

After maritimus cæruleus Tripodium dictus. Ray's Syn. 175.

Tripodium vulgare, majus et minus. Gerard. 413.

Tripodium majus cæruleum et minus. Bauh. pin. 267.

Tripodium majus, seu vulgare et minus. Park. 673.

1. It varies in being smaller, and in the florets being sometimes white.

Sea Starwort.

On the sea-shore, and in salt marshes in the interior parts of the Kingdom, (viz) near Ingestree in Staffordshire. P. August.

Goats and Horses eat it: Cows and Swine refuse it: Sheep are not fond of it.

342 CHAMOMILE.

342 CHAMOMILE. 970 Anthemis.

EMPAL. Common, hemispherical. Scales strap-shaped : nearly equal.

BLOSS. Compound, radiate. Florets with Chives and Pointals tubular ; numerous ; placed in the center, which is convex. Florets with only Pointals, many ; placed in the circumference.

Individuals with Chives and Pointals, funnel-shaped ; with five teeth upright.

Individuals with only Pointals, narrow ; spear-shaped ; sometimes with three teeth.

CHIVES. Threads five ; hair-like ; very short. Tips forming a hollow cylinder.

POINT. Seedbud, where there are both chives and pointals, oblong. Shaft as long the chives ; thread-shaped.

Summits two ; reflected.

Seedbud where there are only pointals, oblong. Shaft the same as the other. Summits two ; rolled back.

S.VESS. None. Cup unchanged.

SEEDS. In all the florets, solitary ; oblong. Feather none.

RECEPT. Chaffy ; conical.

* Rays white.

CHAMOMILE. Leaves winged, edged with little teeth ; Marine fleshy ; naked ; dotted. Stem prostrate ; cups a little downy.— *Maritima* Florets in the center yellow ; those in the circumference white.

Chamæmelum maritimum latifolium ramosissimum, flore albo.

Ray's Syn. 186.

Matricaria maritima. Bauh. pin. 134.

Sea Chamomile.

Pastures near the sea. P. August.

CHAMOMILE. Leaves winged and compound ; strap-Sweet-scented shaped ; sharp ; somewhat hairy—Florets in the center yellow ; those in the circumference white ; bent outwards and downwards. *Nobilis*

Chamæmelum nobile seu Leucanthemum odoratum. Bauh.

pin. 135.

Chamæmelum odoratissimum repens, flore simplici. Ray's

Syn. 185.

Chamæmelum Romanum. Gerard. 755.

Trailing perennial Chamomile. Roman Chamomile.

1. By cultivation the flowers become double : that is the florets of the circumference become more numerous, and those in the center disappear in proportion.

Warm pastures. P. July. August.

The

The leaves and flowers have a strong, not ungrateful smell, and a bitter nauseous taste. They afford an essential oil.—An infusion of the flowers is often used as a stomachic and as an antispasmodic. In large quantities it excites vomiting.—The powdered flowers, in large doses, have cured Agues, even when the Bark had failed—Both the leaves and flowers possess very considerable antiseptic properties, and are therefore used in antiseptic fomentations, and poultices. From their antispasmodic powers, they are frequently found to relieve pain, either applied externally, or taken internally.

Corn
Arvensis

CHAMOMILE. Receptacles conical. Chaff bristly. Seeds crowned with a border—*The whole plant is hoary, and spreads wide. The inner scales of the cup broad at the end, and mem^o anaceous. Florets in the center yellow; those in the circumference white.*

Chamæmelum inodonem. Bauh. pin. 135. Ray's Syn. 184.

Corn-field and road-sides. B. July.

Cows and Sheep eat it: Horses are not fond of it.

May-weed
Cotula

CHAMOMILE. Receptacles conical. Chaff bristly. Seeds naked—*The chaff is very small. The florets are sometimes proliferous; those in the center yellow; those in the circumference white; with three teeth.*

Chamæmelum fætidum. Bauh. pin. 135. Ray's Syn. 185.

1. The variety with double blossoms. *Ray's Syn. 185.*

Stinking May-weed.

Corn-fields and road-sides. A. June—July.

Toads are said to be fond of this plant—It is very ungrateful and displeasing to Bees—Goats and Sheep are not fond of it: Horses, Cows and Swine refuse it.

* * Rays yellow

Ox-eye.
Tinctoria

CHAMOMILE. Leaves doubly winged; serrated, downy underneath. Stem supporting a broad-topped spike of flowers.—*Blossoms yellow.*

Eupthalmum Tanacetii minoris folio. Bauh. pin. 134.

Eupthalmum vulgare. Girard. 747. Ray's Syn. 182.

Eupthalmum Matthioli, seu vulgare Millefolii foliis. Park. 1370.

Common Ox-eye.

Sunny pastures. P. July.

The flowers afford a remarkably clear and good yellow dye. The flowers of the yellow GOLDENS resemble them much in appearance, but experience proves they cannot be substituted in their place.

Horses and Goats eat it: Sheep are not fond of it: Cows and Swine refuse it.

343 YARROW.

343 YARROW. 971 Achillea.

EMPALE. Common, oblong; egg-shaped; tiled. Scales egg-shaped; sharp; approaching.

BLOSS. Compound, radiate. Florets with Chives and Pointals, from five to sixteen: tubular; placed in the center. Florets with only Pointals, from five to ten; narrow; placed in the circumference.

Individuals with Chives and Pointals, funnel-shaped; with five clefts; open.

Individuals with only Pointals narrow; inversely heart-shaped; expanding. cloven into three segments, the middlemost the smallest.

CHIVES. Threads five; hair-like; very short. Tips forming a hollow cylinder.

POINT. Seedbud, where there are both chives and pointals, small. Shaft thread-shaped; as long as the chives. Summit blunt; notched at the end.

Seedbud where there are only pointals, small. Shaft thread-shaped; as long as the other. Summits two; blunt: reflected.

S.VESS. None. Cup but little changed. The Receptacle thread-shaped; lengthens out into the disc of the seeds; egg-shaped, and twice as long as the empalement.

SEEDS. In all the florets, solitary; egg-shaped; woolly. Feather none.

RECEPT. Chaffy; elevated. Chaff spear-shaped; as long as the florets.

YARROW. Leaves spear-shaped; tapering; sharply serrated. Goose-tongue
—Blossoms white; sometimes double. Ptarmica

Ptarmica. Gerard. 606. Ray's Syn. 183. vulgaris. Park. 859.

Dracunculus pratensis, ferrato folio. Baub. pin. 98.

Sneeze-wort. Goose-tongue. Bastard Pellitory.

Moist woods, P. August.

The roots have a hot biting taste—The young tops are sharp and pleasant in spring sallads—The powdered leaves excite sneezing—Horses, Cows, Sheep, Goats and Swine eat it.

YARROW

Milfoil

Millefolium

YARROW. Leaves doubly winged; naked. Segments strap-shaped; toothed. Stem furrowed towards the top—*Blossoms white; sometimes tinged with red or purple.*

Millefolium vulgare. Park. 693 Ray's Syn. 183. album. Bauh. pin. 140.

Millefolium terrestre vulgare. Gerard. 1072.

Common Yarrow or Millfoil.

1. There is a variety with purple blossoms.

Dry pastures. P. May—July.

The flowers yield an essential oil. The leaves are celebrated by the *Materia Medica* writers for a variety of purposes, but they are little attended to at present.—Sheep and Swine eat it. Horses, Cows and Goats are not fond of it.

Order III. Barren Florets.

344 K N A P W E E D. 984 Centaurea.

EMFAL. *Common.* tiled; roundish. Scales often terminating variously.

BLOSS. *Compound.* florets all tubular; but of different shapes. Florets with Chives and Pointals, many; placed in the center. Florets with only Pointals, not so many; larger; more flexible; placed in the circumference.

Individuals with Chives and Pointals, one petal. Tube thread-shaped; Border distended; oblong; upright; terminating in five strap-shaped, upright segments.

Individuals with only Pointals, one petal. Tube slender; gradually becoming wider; bent backwards. Border oblong; oblique; unequally divided.

CHIVES. *Threads* five; hair-like; very short. *Tips* forming a hollow cylinder as long as the blossom.

POINT. *Seedbud,* where there are chives and pointals, small. *Shaft* thread-shaped; as long as the chives. *Summit* very blunt; (in many cloven;) with a projecting point.

Seedbud, where there are only pointals, very small.

Shaft, next to none. *Summit* none.

S. VESS. None. *Cup* unchanged, closing.

SEEDS. In the fertile florets of the center, solitary. *Feather* generally downy, or hairy.

RECEPT. Bristly.

OBS. *The scales of the cup, and the feathers of the seeds are different in different species.* * Scales

* *Scales of the cup fringed.*

KNAPWEED. Cups serrated. Leaves strap-shaped; very Blue-bottle entire. The lower leaves toothed—*Blossoms generally blue, some Cyanus times red, or white, or purple, or flesh-colour.*

Cyanus. *Ray's Syn.* 198. *vulgaris.* *Gerard.* 732. *Park.* 482.

Cyanus segetum. *Bauh. pin.* 273.

Blue-bottles. Corn-flower. Hurt-fickle.

Corn-fields. A. July.

The varieties are very numerous if they are estimated by the colour of the blossom, viz.

1. White.
2. Flesh coloured.
3. Purple.
4. Red.
5. Pale violet.
6. Dark purple.
7. Blue and white.
8. Flesh colour and white.
9. Violet colour and white.
10. Purple and white.
11. Purplish and blue.
12. Double blue.
13. Double purple.
14. Double purple and white.

The expressed juice of the petals is a good blue ink, it stains linen of a beautiful blue, but the colour is not permanent in the mode it has hitherto been applied. Mr. Boyle says, the juice of the Central Florets with the addition of a very small quantity of alum, makes a lasting transparent blue not inferior to ultramarine. *Gent. Mag.* 1748.

Cows, Goats and Sheep eat it; Horses and Swine refuse it.

KNAPWEED. Cups fringed. Leaves with winged clefts. Great Segments spear-shaped.—*Blossoms purple, sometimes white; on long naked fruit stalks.*

Jacea major. *Gerard.* 728. *Ray's Syn.* 198.

Jacea nigra vulgaris laciniata. *Park.* 470.

Scabiosa major, squamatis capitulis. *Bauh. pin.* 269.

Matfellow.

Borders of corn fields. P. June. July.

Horses, Sheep, Goats and Swine eat it; Cows refuse it.

Common
Jacea

KNAPWEED. Cups skinny; ragged. Leaves spear-shaped. Root-leaves indented and toothed. Branches angular.—*The leaves sometimes are white with down. Blossoms purple.*

Jacea nigra. Gerard. 726. Ray's Syn. 198. vulgaris. Park. 468.

Jacea nigra pratensis latifolia. Bauh. pin. 271.

1. There is a variety with downy leaves. Ray's Syn. 199.

Matsellon. Knopweed. Horseknope.

Meadows and pastures. P. July—August.

The following varieties are produced by cultivation;

1. White blossomed.

2. Small, with jagged leaves.

3. Stems rough; leaves narrow.

4. Stems smooth; leaves narrow.

This plant affords a yellow dye, but inferior to that from the **Dyers SAWWORT**.—Cows, Goats and Sheep eat it; Horses and Swine refuse it.

The Knapweed Louse, *Aphis Jaceæ* is found upon it.

* * Scales of the Cups thorny.

Starry
Calcitrapa

KNAPWEED. Cups with thorns, somewhat double; sitting. Leaves with winged clefts; strap-shaped; toothed. Stem hairy—*Blossoms purple; several upon the same stem; sometimes deep purple; rarely white.*

Carduus stellatus. Gerard. 1166. Ray's Syn. 196.

Carduus stellaris, seu Calcitrapa vulgaris. Park. 989.

Carduus stellatus, foliis Papaveris erratici. Bauh. pin. 387.

Star Thistle.

Road-sides and barren ground. A. July.

Thistle
Solstitialis

KNAPWEED. Cups with double thorns; solitary. Leaves spear-shaped, without thorns; running along the branches. Root-leaves lyre-shaped, with winged clefts—*Fruit-stalks very long; leafy. Thorns of the cup only toothed at the base. Blossoms yellow.*

Carduus stellatus luteus, foliis Cyani. Bauh. pin. 387. Ray's Syn. 196.

Carduus solstitialis. Gerard. 1166. Park. 989.

St. Barnaby's Thistle.

Hedges. A. July.

Order

Order IV. Necessary Pointals.

345 CUDWEED. 995 Filago.

EMPAL. Common, composed of chaffy scales ; tiled ; containing in the center many florets with chives and pointals, and amongst the lower scales *solitary Florets* with only pointals.

BLOSS. *Individuals with Chives and Pointals*, funnel-shaped. *Border* with four clefts. upright.

Individuals with only Pointals, not very conspicuous ; thread-shaped ; very slender ; mouth cloven.

CHIVES. *Threads* four ; hair-like ; small. *Tips* forming a hollow cylinder, with four teeth at the top.

POINT. *Seedbud*, where there are chives and pointals, hardly perceptible. *Shaft* simple. *Summit* sharp ; cloven.

Seedbud, where there are only pointals, inversely egg-shaped ; rather large ; depressed. *Shaft* thread-shaped. *Summit* cloven ; sharp.

S. VESS. None.

SEEDS. In those florets that have both chives and pointals, none. In the florets with only pointals, inversely egg-shaped ; compressed ; smooth ; small. *Feather* none.

RECEPT. The center naked ; but at the sides the chaffy scales of the empalement separate the florets.

CUDWEED. Flowers in a forked panicle ; round ; in the Common divisions of the branches ; hairy. Leaves sharp—*Cups with five* Germanica corners ; the scales *glossy and sharp*. Blossoms brown.

Gnaphalium vulgare majus. Baub. pin. 262.

Gnaphalium minus, seu *Herba impia*. Park. 685. Ray's Syn. 180.

Filago, seu *Herba impia*. Gerard. 641.

Chateweed.

Barren pastures and road-sides. A. June—July.

It is given to cattle that have the bloody flux ; and hath been tried with success in similar complaints of the human body.

Least
Montana

CUDWEED. Stem upright; a little forked. Flowers conical; some terminating; others in the divisions of the branches—*Leaves numerous; downy. Blossoms yellowish brown.*

Filago minor. *Gerard.* 641.

Gnaphalium minimum. *Ray's Syn.* 181.

Gnaphalium minus repens. *Bauh. pin.* 363.

Sandy pastures. A. June—July.

Sheep eat it; Cows and Goats refuse it.

Corn
Gallica

CUDWEED. Stem upright; forked. Flowers awl-shaped; in the divisions of the branches. Leaves thread-shaped—*Leaves not hairy, but smooth and a little downy.*

Gnaphalium parvum ramosissimum foliis angustissimis polyspermon. *Ray's Syn.* 181.

Sandy corn-fields. A. June—July.

Order VI. Flowers simple.

346 SCABIOUS. 1005 Jafione

EMFAL. *Common Cup* of many leaves; permanent; alternate; the inner ones narrower; inclosing several flowers upon very short fruit-stalks.

Proper Cup with five clefts; superior; permanent.

BLOSS. *Individuals* with five petals. *Petals* spear-shaped; upright; connected at the base.

CHIVES. *Threads* five; awl-shaped; short. *Tips* five; oblong; connected at the base.

POINT. *Seedbud* beneath; roundish. *Shaft* thread-shaped; as long as the blossom. *Summit* cloven.

S.VESS. *Capsule* roundish; with five angles and two cells; crowned by the *proper Cup*.

SEEDS. Many; somewhat egg-shaped.

Obs. *The central florets are frequently barren, and the summit club-shaped and undivided.*

Sheep
Montana

SCABIOUS. As there is only one species known, *Linnaeus* gives no description of it—*Blossoms blue. Fruit-stalks naked.*

Rapunculus scabiosæ capitulo cæruleo. Bauh. pin. 92. *Park.* 646. *Ray's Syn.* 278.

Scabiosa minima hirsuta. Gerard. 723.

Hairy sheep Scabious.

Heaths and hilly pastures. A. June—July.

The flowers are very grateful to bees.

347 CARDINAL.

347 CARDINALFLOWER. 1006 Lobelia.

EMPALE. Cup one leaf; with five teeth; very small; embracing the seedbud; shrivelling. *Teeth* nearly equal; the two upper ones a little raised.

BLOSS. One petal; rather gaping. *Tube* cylindrical; longer than the cup; divided on the upper part lengthways. *Border* with five divisions. *Segments* spear-shaped; the *two upper ones* smaller; more reflected; more deeply divided; forming the upper lip. The *three lower ones* generally larger, and more expanding.

CHIVES. *Threads* five; awl-shaped; as long as the tube of the blossom. *Tips* connected so as to form an oblong cylinder, opening at the base in five different directions.

POINT. *Seedbud* beneath: tapering to a point. *Shaft* cylindrical; as long as the chives. *Summit* blunt; rough with hair.

S. VESS. *Capsule* egg-shaped; with two cells; opening at the top; encompassed by the cup.

SEEDS. Many; very small.

CARDINALFLOWER. Leaves strap-shaped; very entire; Water with a double hollow running lengthways. Stem almost naked — *Dortmanna*
The whole plant, and even the leaves that lie beneath the surface of the water are milky. Blossoms pale purple, or bluish white.

Gladeolus lacustris *Dortmanni*. *Ray's Syn.* 287.

Gladeolus lacustris *Clusii*, seu *Leucojum palustre*, flore subcæruleo. *Park.* 1250.

Leucojum palustre flore subcæruleo. *Baub. pin.* 41.

In lakes in hilly countries. P. July—August.

EMPAL. *Cup* five leaves; short; permanent. *Little Leaves* oblong egg-shaped; rather sharp at the end; blunt below; fixed above the base; equal; but variously disposed. Two support the upper petal; two support the two lateral petals; and one supports the two lower petals.

BLOSS. Petals five; irregular unequal; the *Upper Petal* straight; facing downwards; broader and more blunt than the rest; notched at the end: Terminating at the base in a blunt *Honey-cup* resembling a horn, and projecting betwixt the leaves of the cup.

Lateral Petals two; opposite; blunt; straight.

Lower Petals two; larger; reflected upwards.

CHIVES. *Threads* five; very small. The two near the uppermost petal, are furnished with little appendages which enter the honey-cup. *Tips* generally united; blunt; with membranes at the end.

POINT. *Seedbud* roundish. *Shaft* thread-shaped; extending beyond the tips. *Summit* oblique.

S. VESS. *Capsule* egg-shaped; three-edged; blunt; with one cell and three valves.

SEEDS. Many; egg-shaped; furnished with appendages fixed to the valves. *Receptacle* narrow; running like a line along each valve.

OBS. *In some species the SUMMIT is a simple reflected hook; in others it is a little concave knob, perforated at the end.*

* *Without Stems.*

Hairy
Hirta

VIOLET, without a stem. Leaves heart-shaped; rough with hair—*Blossoms* pale blue.

Viola martia major hirtuta inodora. *Ray's Syn.* 365.

Woods and hedges. P. March.

Horses, Cows, Goats and Sheep eat it.

Marsh
Palustris

VIOLET, without a stem. Leaves kidney-shaped—*Fruit-stalks* cylindrical, or only a little flattened upon one side. The upper petal is marked with black lines which extend quite to the top of it. *Blossoms* pale blue.

Viola palustris rotundifolia glabra. *Ray's Syn.* 364.

1. There is a variety in which the blossom is striped with purple. *Park.* 755.

Cows eat it; Sheep are not fond of it.

VIOLET

VIOLET, without a stem. Leaves heart-shaped. Suckers Sweet
creeping along—*Blossoms deepish purple.* Odorata.

Viola Martia purpurea. Ray's Syn. 364. flore simplici.
Baub. pin. 199.

Viola nigra sive purpurea. Gerard. 850.

Viola simplex Martia. Park. 755.

1. There is a variety with white blossoms. *Baub. pin.* 199.
2. Cultivation produces double flowers, blue and white, or pale purple.

Ditch-banks, in moist warm lanes. P. March.

The flowers and the seeds are said to be mild laxatives. The petals give the colour to the syrup of Violets. This syrup is very useful in many Chemical enquiries, to detect an acid or an alkali: the former changing the blue colour to a red, and the latter turning it green—Slips of white paper stained with the juice of the petals, and kept from the air and the light, answer the same purpose.

* * With Stems.

VIOLET. Stem ascending as it attains its full growth. Leaves Dogs oblong heart-shaped—*At the first opening of the flower it hath no stalk, but afterwards the stalk grows up and fruit-stalks proceed from it.* Blossoms pale blue. Cabina

Viola Martia inodora sylvestris. *Baub. pin.* 199. Ray's Syn. 364.

Viola canina sylvestris. Gerard. 851.

Viola sylvestris. Park. 755.

1. Blossom white. Ray's Syn. 364.
2. Very small Violet. Ray's Syn. 364. Tab. 24. fig. 1. smaller in every respect, and the spur of the blossom of a pale yellow.

On heaths and ditch-banks. P. April.

Cows, Sheep, Swine and Goats eat it; Horses refuse it.

VIOLET. Stem supporting two or three flowers. Leaves Welch kidney-shaped, ferrated—*Blossoms yellow.* Biflora

Viola alpina rotundifolia lutea. *Baub. pin.* 199.

Viola alpina. Hudson. 331.

Viola Martia alpina folio tenello circinnato. Ray's Syn. 365.

On mountains in Wales. P.

Goats eat it.

* * * *Props with winged Clefts.*

Pansie
Tricolor

VIOLET. Stem three cornered; spreading. Leaves oblong; jagged. Props with winged clefts—*Fruit-stalks compressed. Floral leaves two; halberd-shaped; with two teeth on each side. Summit globular, open and hollow; fringed on the lower part, so that the little fibres of the fringe are nearly in contact with the tips. Blossoms purple, yellow, and light blue.*

Viola tricolor. Gerard. 854. Ray's Syn. 365. major et vulgaris. Park. 756.

Viola tricolor hortensis repens. Raub. pin. 199.

1. With only two colours. *Baub. pin. 200.*

Hearts-ease. Pansies. Three Faces under a Hood.

Ditch-banks and corn-fields. A. May—September.

This is very frequently cultivated in flower gardens. The dust appears angular in the Microscope, but when wet with water it becomes globular. This alteration in figure is not peculiar to the dust of this plant only—Cows and Goats eat it; Swine are not fond of it; Horses and Sheep refuse it.

Yellow
Grandiflora

VIOLET. Stem upright; three cornered. Leaves somewhat oblong; props with winged clefts—*Blossoms very large; yellow. Petals egg-shaped; as long as the leaves. Spur twice as long as the cup, but shorter than the petals. Summit globular, open and hollow.*

Viola montana lutea grandiflora nostras. Ray's Syn. 365.

Viola flammea lutea. Gerard. 851.

Viola montana lutea grandiflora. Baub. pin. 200.

Viola lutea. Hudson. 231.

Yellow Pansies.

In bogs upon mountains, and hilly pastures. P. May—August.

The different species of Violets afford nourishment to the great Fritillary Butterfly with silver spots; *Papilio Aglaja*; and to the high brown Fritillary Butterfly, *Papilio Adippe*.

349 WEATHERCOCK. 1008 Impatiens.

EMPAL. Cup two leaves; very small. *Little Leaves* circular, but tapering towards a point; equal; placed at the sides of the blossom; coloured; deciduous.

BLOSS. Petals five; gaping; unequal; the
Upper Petal circular; flat; upright; with three shallow segments; tapering to a point; forming the Upper Lip.

Lower Petals two; reflected; large; broadest on the outer part; blunt; irregular; forming the Lower Lip.

Intermediate Petals two; opposite; arising from the base of the upper petal.

Honey cup one leaf like a hood, receiving the bottom of the flower. Mouth oblique; rising outwards. Base ending in a horn.

CHIVES, Threads five; very short; narrower towards the base; bent inwards. Tips five; united; but separate at the base.

POINT. Seedbud egg-shaped; but tapering. Shaft none. Summit simple; shorter than the tips.

S. VESS. Capsule one cell, with five valves, which opening with a spring, roll up into a spiral.

SEEDS. Many; roundish; fixed to a pillar-like receptacle.

Obs. In some species the intermediate petals are wanting; in others the honey-cup hath no horn. The figure of the capsule is various.

WEATHERCOCK. Fruit-stalks supporting many flowers; Impatient solitary. Leaves egg-shaped. Stem swelling at the joints—Noli tangere
When the seeds are ripe, upon touching the capsule, they are thrown out with considerable force. In the day time the leaves are expanded; but at night they hang pendant. Blossoms yellow; the lateral petals spotted with red: by cultivation they are changed to pale yellow or purplish.

Balsamine lutea, seu Noli me tangere. *Bamb. pin.* 306. *Ray's Syn.* 316.

Perficaria filiquosa. *Gerard.* 440.

Mercurialis sylvestris, Noli me tangere dicta, five *perficaria filiquosa.* *Park.* 296.

Quick in the Hand. Touch me not. Balsamine.

Moist shady places. Banks of rivulets. A. August.

The whole plant is considerably acrid—Goats eat it; Horses, Cows and Sheep refuse it.

The Elephant Moth, *Sphinx Elpenor*, lives upon it.

CLASS.

C L A S S XX.

THIS Class is distinguished by the *CHIVES* being placed upon the *SHAFT*, or upon the *Receptacle* lengthened out into the form of a *SHAFT*, supporting both the *Pointal* and the *Chives*, and entering into part of the pointal.

The first Order of this Class is natural, and its Genera are distinguished by the Honey-cup alone. The structure of the flowers is very singular.

SEEDBUD always below the blossom, twisted like a screw.
PETALS five; the two inner ones generally approaching so as to resemble a helmet. A *Honey-cup* forms the lower lip and occupies the place of the pointal, and of a sixth petal.

SHAFT fixed to the inner edge of the honey-cup, so as to be scarce distinguishable; as is likewise the *Summit*.

THREADS always two; very short; supporting two *Tips*; more slender below; without any coat; divisible like the pulp of Citron. They are inclosed in little cells opening downwards, and fixed to the inner edge of the honey-cup.

CAPSULE one cell, with three valves; opening at the angles under the keel-shaped ribs.

SEEDS like saw-dust; very numerous; fixed to a narrow receptacle upon each valve.

The

The reader in examining and comparing the characters of this class, should always attend to the Pointal before the Chives, in order to attain a distinct idea of the situation of the latter.

The flowers of this Class have a very singular appearance, owing to the unusual disposition of their component parts.

A very ingenious gentleman at Worcester, to whose judgment and accuracy I have been much indebted in the course of this work, has favoured me with the following remarks upon the structure of the *Chives* in the first Order of this Class.—The *CHIVES* are, evidently two: but each of them appears to be composed of a number of elastic *Fibres* united together; each *Fibre* supporting its own proper *Tip*. These *Fibres* I call elastic; for if you press down the bottom of the Chive with a needle or any other instrument, and draw another needle along the Chive, pressing it with some force, you may extend the Chive to twice its former length: but no sooner do you remove the force applied, than the fibres contract with an elastic force, and the Chive returns to its former shape. This you may repeat, and the effect will be constantly the same.

These fibres branch out into lesser ones, each supporting at its point an extremely minute *Tip*. These tips I have examined in the microscope, and found some of them roundish and others nearly triangular. The *Dust* which these probably contained I was not able to discover.

Order

Order I. Two Chives.

- 350 ORCHIS. - - *Honey-cup* like a little horn.
 351 SATYRION. - *Honey-cup* shaped like a double purse.
 352 TWAYBLADE. *Honey-cup* somewhat keel-shaped.
 353 HELLEBORINE. *Honey-cup* egg-shaped ; hunched on
 the under-side.
 354 SLIPPER. - - *Honey-cup* distended and bladder-
 shaped.

Order VIII. Many Chives.

- 355 CUCKOWPINT. In a sheath. *Cup* none. *Bloff.* none.
Chives above the pointals.
 356 GRASSWRACK. In a leaf. *Cup* none. *Bloff.* none.
Seeds alternate, naked.

† *Gatteridge Spindle.*

350 ORCHIS. 1009 Orchis.

EMPAL. *Sheaths* scattered. *Fruit-stalk* simple.

Cup none.

BLOSS. Petals five; three *outer* ones; two *inner* ones, approaching upwards so as to form a helmet.

Honey-cup one leaf, fixed by the lower side to the receptacle betwixt the division of the petals. *Upper Lip* upright; very short. *Lower Lip* large; expanding; broad. *Tube* standing behind, shaped like a horn; hanging a little down.

CHIVES. *Threads* two; very slender and very short; fixed on the pointal. *Tips* inversely egg-shaped; upright; covered by a fold of the upper lip of the honey-cup, forming two cells.

POINT. *Seedbud* beneath; oblong; twisted. *Shaft* fixed to the upper lip of the honey-cup; very short. *Summit* compressed; blunt.

S. VESS. *Capsule* oblong; with one cell; three keels; three valves; opening in three places under the keels; connected at the base and at the end.

SEEDS. Numerous; very small; like saw-dust.

* *Bulbs of the root undivided.*

ORCHIS. Bulbs undivided. Lip of the honey-cup spear-shaped; very entire. Horn very long. Petals expanding—*Bifolia* Blossoms yellowish-white, smelling very sweet in the night. Leaves generally two.

Orchis alba bifolia minor, calcari oblongo. Bauh. pin. 83. Ray's Syn. 380.

Orchis psychodes. Gerard. 211.

Orchis sphegodes, seu Testiculis vulpinus primus. Park. 1351. Pastures and uncultivated rough grounds. P. June.

ORCHIS. Bulbs undivided. Lip of the honey-cup with two horns; cloven into three segments; equal; very entire. Horn long. Petals somewhat spear-shaped—*Bulbs joined together. Stem about a foot high; jointed; with five or six sharp, spear-shaped, membranaceous leaves. Floral Leaves spear shaped; coloured; as long as the seedbud. Two petals expanding, three approaching. Blossoms pale purple.*

Orchis purpurea, ipica congesta pyramidalis. Ray's Syn. 377. tab. 18.

Purple late-flowering Orchis.

Dry pastures. P. June—July.

ORCHIS.

Lizzard
Coriophora

ORCHIS. Bulbs undivided. Lip of the honey-cup cloven into three segments; reflected; scolloped. Horn short. Petals approaching.—*Blossoms greenish white or tinged with purple.*

Orchis odore hirci minor. *Baub. pin. 82.*

Orchis barbata fœtida minor flore albo. *Ray's Syn. 376.*

Letlier Lizard Flower.

Fools
Morio

ORCHIS. Bulbs undivided. Lip of the honey-cup cloven into four segments; scolloped. Horn blunt; ascending. Petals blunt; approaching.—*Blossoms white, or red mottled with white, or violet coloured.*

Orchis morio fœmina. *Baub. pin. 82. Park. 1347. Ray's Syn. 377.*

Cynorchis morio fœmina. *Gerard. 208.*

Female Fool-stones.

Moist pastures. P. May—June.

Goats eat it; Horses refuse it.

Bulbous
Mascula

ORCHIS. Bulbs undivided. Lip of the honey-cup divided into four lobes; scolloped. Horn blunt. Petals on the tack reflected.—*Blossoms purple. This differs from the preceding species by the outer petals being longer and more sharp, and the middle lobe of the lip cloven and longer than the lateral lobes. The flowers are likewise more numerous, and the stem twice as tall. Floral leaf coloured.*

Orchis morio mas, foliis maculatis. *Baub. pin. 81. Park. 1346.*

Cynorchis morio mas. *Gerard. 208.*

Male Fool-stones.

Meadows and pastures. P. April—May.

Mr. Moulst, in a letter to Dr. Percival inserted in the *Philos. Transf.* vol. 59. p. 1. describes his method of making Salep. The best time to gather the roots, he observes, is when the seed is formed, and the stalk is going to fall; for then the new bulb, of which Salep is made, is arrived at its full size. This new root being separated from the stalk, is to be washed in water, and the outer thin skin taken off. They are then to be set on a tin plate in an oven heated to the degree of a bread-oven. In six, eight or ten minutes they will have acquired a transparency like horn, but without being diminished in size. They are then to be removed into another room to dry and harden, which will be done in a few days: or they may be finished in a very slow heat in a few hours.

Salep thus prepared, may be sold for less than a shilling a pound, and affords a mild nutriment which in times of scarcity, in cases of Dysentery and Strangury, and on ship board may be extremely useful. *See Percival's Essays. part. 2. p. 37.*

Mr. Moulst made his experiments upon the roots of this species only. The preceding species is undoubtedly equally proper
for

for the purpose, and it is highly probable that every species of *Orchis* may be used indiscriminately. Salep has been hitherto imported from Turkey at a considerable price, but it is to be hoped we shall no longer be supplied from foreign markets, with an article that our own country can supply us with in almost any quantity. If ever plantations of it are made, the plants must be propagated by roots, for the seeds seldom come to perfection. Dr. Percival observes that he got some seeds to all appearance perfect, but yet they would not vegetate. Is it that the warmth of our climate being insufficient fully to expand the blossom, the tips are never released from their confinement in the cells formed by the upper lip of the honey-cup, and therefore the dust can never escape to fertilize the seedbud?

ORCHIS. Bulbs undivided. Lip of the honey-cup cloven Purple into four segments, with rough dots. Horn blunt. Petals Ustulata distinct.—*Blossoms purple; mottled with white.*

Orchis pannonica. Ray's Syn. 377.

Cynorchis militaris pratensis humilior. Bauh. pin. 81.

Cynorchis militaris pannonica. Park. 1345.

Cynorchis minor pannonica. Gerard. 207.

Little purple-flowered *Orchis*.

Dry barren pastures. P. May—June.

ORCHIS. Bulbs undivided. Lip of the honey-cup cloven Soldier into five segments, with rough dots. Horn blunt. Petals thronging together.—*Blossoms dark purple, or greyish white.*

Orchis galea et alis fere cinereis. Ray's Syn. 378.

Cynorchis latifolia hiant cucullo major. Bauh. pin. 80.

Cynorchis latifolia minor. Park. 1344.

Cynorchis major altera. Gerard. 205.

Man *Orchis*.

1. Bulbs undivided. Lip of the honey-cup bearded; divided Purple into five lobes; the lateral ones blunt, and a little scolloped; the middlemost very short, and sharp. Petals thronging together;—purple.

Orchis magna, latis foliis, Galea fusca vel nigricante. Ray's Syn. 373. tab. 19. fig. 2.

Orchis purpurea. Hudson. 334.

Chalk hills. P. June.

** *Bulbs*

* * *Bulbs of the root hand-shaped.*

Broad-leaved
Latifolia

ORCHIS. Bulbs somewhat hand-shaped; straight. Horn of the honey-cup conical. Lip divided into three lobes; the lateral ones reflected. Floral leaves longer than the blossom—Stem hollow. Root not much branched, being divided only into two or three fingers. Leaves, especially the lower ones, a little spotted. The two lateral petals bent upwards. Blossoms purple, or flesh-coloured and sometimes white.

Orchis palmata pratensis latifolia, longis calcaribus. Bauh. pin. 85. Ray's Syn. 380.

Orchis palmata mas, seu Palma Christi mas. Park. 1356.

Palma Christi mas. Gerard. 220.

Male-handed Orchis.

Moist meadows and marshy ground. P. May—June.

Cows eat it; Horses refuse it.

Spotted
Maculata

ORCHIS. Bulbs hand-shaped; expanding. Horn of the honey-cup shorter than the seedbud; lip flat. Petals on the back upright.—Stem not hollow. Lateral lobes of the honey-cup large, and scolloped; the middle lobe very narrow and entire. Leaves spotted with black. Blossoms purplish red; sometimes flesh-coloured, or white.

Orchis palmata pratensis maculata. Bauh. pin. 85. Ray's Syn. 381.

Orchis palmata femina, seu Palma Christi femina, foliis maculatis. Park. 1357.

Palma Christi femina. Gerard. 220.

Female-handed Orchis.

Woods, rich meadows, and sometimes in barren pastures. P. June.

Sheep eat it; Goats and Horses refuse it; Cows are not fond of it.

Red
Conopsea

ORCHIS. Bulbs hand-shaped. Horn of the honey-cup thread-shaped; as long as the seedbud. Lip cloven into three segments; very entire. The two outer petals greatly expanded.—The others approaching. Spike of flowers very long. Blossoms red; sometimes whitish.

Orchis palmata rubella cum longis calcaribus rubellis. Ray's Syn. 381.

Orchis palmata minor, calcaribus oblongus. Bauh. pin. 85.

Orchis palmata minor, flore rubro. Park. 1358.

Serapias minor, nitente flore. Gerard. 222.

Red-handed Orchis.

Meadows and pastures. B. June.

Goats and Cows eat it; Horses refuse it.

* * * *Roots*

* * * *Roots bundled.*

ORCHIS. Roots fibrous; bundled; thread-shaped. Lip Bird's-Nest of the honey-cup egg-shaped; very entire. Stem destitute of Abortiva leaves.—*Purple.* Blossoms violet.

Orchis abortiva violacea. Bauh. pin. 86.

Limodorum Austriacum. Ray's Syn. 383.

Nidus avis purpureus. Park. 1362.

Nidus avis flore et caule purpureo violaceo. Gerard. 228.

Purple Birds Nest.

Dry pastures. P. May.

351 SATYRION. 1010 Satyrium.

EMPAL. *Sheaths* scattered. *Fruit-stalk* simple. *Cup* none.

BLOSS. *Petals* five; oblong egg-shaped. *Three* outer ones; and *two* inner ones, which approach so as to form a helmet.

Honey-cup one leaf; connected by the lower side to the receptacle betwixt the division of the petals. *Upper Lip* very short; upright. *Lower Lip* flat; pendant; with a bag like a double purse projecting behind.

CHIVES. *Threads* two; very slender; very short; fixed on the pointal. *Tips* inversely egg-shaped; covered by a fold of the upper lip of the honey-cup forming two cells.

POINT. *Seedbud* beneath: oblong; twisted. *Shaft* very short; fixed to the upper lip of the honey-cup. *Summit* compressed; blunt.

S.VESS. *Capfsule* oblong; with one cell; three keels; three valves; opening in three places under the keels; connected at the base and at the end.

SEEDS. Numerous; very small; like saw-dust.

Goat

Hircinum

SATYRION. Bulbs undivided. Leaves spear-shaped. Lip of the honey-cup cloven into three segments: the middle segment strap-shaped; oblique; bitten—*Blossoms greenish white; purple within.*

Orchis barbata odore hirci, brevior latioreque folio. *Bauh. pin. 82.*

Orchis barbata fætida. Ray's Syn. 376.

Tragorchis maxima et T. vulgaris. Park. 1348.

Tragorchis maximus et T. mas. Gerard. 225.

Lizard flower or Goatstones.

In chalky soil. P. June—July.

VOL. II.

M

SATYRION.

Green
Viride

SATYRION. Bulbs hand-shaped. Leaves oblong; blunt. Lip of the honey-cup strap-shaped; cloven into three segments; the middle segment imperfect—*Stem angular; leafy. Leaves spear-shaped; alternate; downy; embracing the stem. Floral leaves spear-shaped; longer than the blossom. Blossom greenish yellow.*

Orchis palmata flore viridi. Baub. pin. 86.

Orchis palmata minor, flore luteo-viridi. Ray's Syn. 381.

Serapias batrachites altera. Gerard. 224.

Frog Satyrion. Frog Orchis.

Dry pastures. P. May—June.

Goats eat it.

Brown
Fuscum

SATYRION. Bulbs hand-shaped. Leaves oblong. Lip of the honey-cup cloven into three equal segments.—
Near Kendal in Westmoreland. P. August.

White
Albidum

SATYRION Bulbs bundled. Leaves spear-shaped. Lip of the honey-cup cloven into three segments; sharp; the middle segment blunt—*Spur very short. Petals, three white; two greenish yellow.*

Orchis palmata thyrsos specioso, longo, dense stipato, ex viridi albente. Ray's Syn. 382.

Moist pastures. P. June.

Orchis
Repens

SATYRION. Bulbs fibrous. Root-leaves egg-shaped. Flowers all pointing one way—*Leaves on leaf-stalks. Flowers with four hairy petals. Three petals downy; glued together. Blossoms greenish yellow.*

Pseudo-Orchis. Baub. pin. 84.

352 TWAYBLADE. 1011 Ophrys.

EMPAL. Sheaths scattered. *Fruit-stalk* simple. *Cup* none.

BLOSS. Petals five; oblong; approaching upwards; equal. two of them placed outwards.

Honey-cup longer than the petals; hanging down; keeled on the back part only.

CHIVES. *Threads* two; very short; fixed to the pointal.

Tips upright; covered by the inner edge of the honey-cup.

POINT. *Seedpod* beneath: oblong; twisted. *Shaft* fixed to the inner edge of the honey-cup. *Summit* imperfect.

S. VESS. *Capsule* somewhat egg-shaped; three edged; blunt; scored; with three valves; and one cell: opening at the keel-shaped angles,

SEEDS. Numerous; like saw-dust. *Receptacle* strap-shaped; growing to each valve of the seed-vessel.

* *Bulbs branched.*

TWAYBLADE. Bulbs fibrous and bundled. Stem sheath- Birds-Nest ed; but without leaves. Lip of the honey-cup cloven—*Bloss*—*Nidus avis* *seems brown.*

Nidus avis. Ray's Syn. 382.

Orchis abortiva fusca. Baub. pin. 86.

Orchis abortiva rufa, seu *Nidus avis.* Park. 1362.

Satyrium abortivum, seu *Nidus avis.* Gerard. 228.

Woods and shady places. P. May.

TWAYBLADE. Bulbs incorporated; oblong. Stem some- Triple what leafy. Flowers placed spirally, but pointing one way. *Spiralis* Lip of the honey-cup undivided, but a little scolloped.—*Leaves* *is general betwixt strap and spear-shaped.* The three outer petals *glued together.* Blossoms yellowish white.

Orchis spiralis alba odorata. Ray's Syn. 378.

Triorchis. Gerard. 218. *alba odorata minor.* Baub. pin. 87. Park. 1354.

Triple Ladies Traces.

Barren pastures. P. August.

TWAYBLADE. Bulb fibrous. Stem with two leaves. Common Leaves egg-shaped. Lip of the honey-cup cloven.—*Blossoms* *Ovata* *green.*

Ophrys bifolia. Gerard. 402. Baub. pin. 87.

Bitolium fylveitre vulgare. Park. 504. Ray's Syn. 585.

Woods and moist rough grounds. P. May—June.

Cows and Goats eat it.

M 2

TWAY-

Least
Cordata

TWAYBLADE. Bulb fibrous. Stem with two leaves. Leaves heart-shaped—*The cloven lip of the honey cup hath a little tooth on each side, which doth not exist in the preceding species.* Blossoms whitish.

Ophrys minima. *Bamb. pin.* 87.

Bifolium minimum. *Ray's Syn.* 385.

Moist Heaths and Turf Bogs. P. July.

* * *Bulbs round.*

Dwarf
Lilifolia

TWAYBLADE. Bulb roundish; stalk naked; leaves spear-shaped; lip of the honey-cup entire. Petals on the back of the flower strap-shaped—*Bulbs pear-shaped; encompassed with a leafy sheath.* Stalk naked; three cornered. Root-leaves stringy. Blossoms red; but the three narrow petals strap-shaped and greenish.

Pseudo-orchis bifolia palustris. *Ray's Syn.* 382.

Chamaeorchis lilifolia. *Bamb. pin.* 84.

Chamaeorchis latifolia Zelandica. *Park.* 1354.

Dwarf Orchis.

Marshes. P. July.

Marsh
Paludosa

TWAYBLADE. Bulb roundish; stalk nearly naked; with five edges. Leaves rough at the end. Lip of the honey-cup entire—*Bulb egg-shaped; crooked; with a root at the bottom.* Root-Leaves three or four; Spatula shaped; alternate. Flowers greenish yellow; several in a bunch. The two lateral petals bent back; upright; oblong egg-shaped. The two inner petals lateral; narrow; crooked. The upper petal straight.

Bifolium palustre. *Park.* 505. *Ray's Syn.* 385.

Orchis minima bulbosa. *Ray's Syn.* 378.

Ophrys Palustris. *Hudson.* 339.

Least Orchis.

Turf Bogs. P. July—August.

Yellow
Monorchis

TWAYBLADE. Bulb globular; stalk naked. Lip of the honey-cup cloven into three segments; cross-shaped.—*Root-leaves two or three.* Blossoms greenish yellow; without a spur.

Orchis odorata moschata, five Monorchis. *Bamb. pin.* 84. *Ray's Syn.* 378.

Orchis pusilla odorata. *Park.* 1354.

Yellow Orchis. Musk. Orchis.

Barren pastures. P. July.

TWAY-

TWAYBLADE. Bulbs roundish. Stalk leafy. Lip of Green the honey-cup strap-shaped; divided into three segments; the Anthopos-longest in the middle cloven.—*Blossoms greenish; without a spur.* phora

Orchis anthropophora orcales. *Ray's Syn.* 379. *sætina.* Park. 1348.

Orchis flore nudi hominis effigiam representans, *fæmina.* Baub. *pin.* 82.

Green Man Orchis.

Chalky and gravelly soils. P. June.

TWAYBLADE. Bulbs roundish. Stalk leafy. Lip of *Insect* the honey-cup divided into four or five lobes— *Insectifera* 1. Resembling a fly; the lip of the honey cup cloven into four *Fly.* segments; helmet and wings greenish.

Orchis myodes galea et alis herbidis. *Ray's Syn.* 379.

Orchis muscæ corpus referens minor, vel galea et alis herbis. Baub. *pin.* 82.

Orchis myodes minor. Park. 1352.

Orchis muscifera. Hudson. 340.

Common Fly Orchis.

In meadows and on chalky hills. P. May.

2. Orchis myodes major. Park. 1351. *Ray's Syn.* 379.

Greater Fly.

Greater Fly Orchis.

In pastures and chalk-pits. P. May.

1. Resembling a bee; the lip of the honey-cup divided into *Bee.* five lobes, bent inwards underneath. (Hudson)—*Outermost petals of the blossom large; expanding; of a purplish colour; the two innermost green. The lower lip of the honey-cup large, but shorter than the petals, of a brownish purple, mixed with yellow: divided into three lobes; the innermost the largest, and divided again into three lobes, bent downwards. Upper lip of the Honey-cup longer than the lower; narrowing upwards to a point; of a green colour. Threads long; tips very large. Seedbud longer than the petals, but shorter than the floral leaves.* Martyn Cat. Cant. 171.

Orchis fuciflora galea, et alis purpurascens. *Ray's Syn.* 379.

Orchis sphegodes seu fucum referens. Park. 1350.

Orchis, five Testiculus vulpinus duo, sphegodes. Gerard.

212.

Orchis fucum referens major foliolis superioribus candidis et pupurascens. Baub. *pin.* 83.

Orchis apifera. Hudson 340.

Common Humble Bee. Satyrion, or Bee-flower.

In dry pastures. P. June.

Drone

2. Helmet and wings green ; lip of the honey-cup hairy ; without any mixture of yellow,—the whole blossom of a darker colour, and more resembling a drone than a bee.

Orchis, five Testiculus sphegodes hirsuto flore. *Ray's Syn.* 380.

Orchis fucum referens colore rubiginoso. *Bauh. pin.* 83.

Orchis sphegodes altera. *Park.* 1351.

Testiculus vulpinus major sphegodes. *Gerard.* 212.

Humble-Bee Satyrion with green wings, or Wasp Orchis.

In chalk and gravel. P. April.

353 HELLEBORINE. 1012 Serapias.

EMERAL. *Sheaths* scattered. *Fruit-stalk* simple. *Cup* none.

BLOSS. *Petals* five ; oblong egg-shaped ; open but rather upright ; approaching upwards.

Honey-cup as long as the petals ; hollowed at the base ; filled with honey ; egg-shaped ; hunched beneath ; cloven into three segments ; sharp : the middle segment heart-shaped ; blunt ; cloven at the seam of the base ; with three teeth.

CHIVES. *Threads* two ; very short ; fixed to the pointal.

Tips upright ; placed under the upper lip of the honey-cup.

POINT. *Seedbulb* beneath : oblong ; twisted. *Shaft* growing to the upper lip of the honey-cup. *Summit* indistinct.

S. VESS. *Capsule* inversely egg-shaped ; with three blunt edges ; three keels, growing to it ; three valves ; opening under the keels, and one cell.

SEEDS. Numerous ; like saw-dust. *Receptacle* strap-shaped ; growing to each valve of the seed-vessel.

Broad-leaved
Latifolia.

HELLEBORINE. Bulbs fibrous ; leaves egg-shaped ; embracing the stem. Flowers pendant.—*Blossoms* brownish green, with a purple spot at the bottom of the honey-cup. Lip of the honey-cup blunt, scalloped, equal to the petals. Petals egg-shaped. Flowers forming a long spike. Fruit-stalks long.

Helleborine latifolia montana. *Bauh. pin.* 186. *Ray's Syn.* 383.

Helleborine. *Gerard.* 442.

Helleborine, flore viridante. *Park.* 218.

1. Flowers dark red. *Bauh. pin.* 185. *Ray's Syn.* 383.

2. Flowers purple on the outside ; white within.

Helleborine palustris nostras. *Ray's Syn.* 384.

Broad-leaved bastard Hellebore.

Woods and moist hedges. 2 in marshes. P. July—August.

HELLE-

HELLEBORINE. Bulbs fibrous. Leaves sword-shaped; Long-leaved fitting. Flowers pendant — *Stem taller than the preceding species; Longifolia* Flowers twice as large. Honey-cup adhering to the other petals; marked with purple lines. Petals white on the outside, with yellowish spots and lines within; spear-shaped. Floral leaves longer than the flower.

Helleborine flore albo. *Gerard.* 442. *Ray's Syn.* 383.

Helleborine flore albo, vel *Damasonium montanum latifolium.* *Baub. pin.* 187.

Elleborine minor flore albo. *Park.* 218.

1. With broader leaves and white blossoms. *Ray's Syn.* 384.
2. With very long, narrow, pointed leaves. *Ray's Syn.* 384.
3. With narrow leaves and purplish blossoms. *Baub. pin.* 187.

White flowered bastard Hellebore.

Woods and rough grounds. P. August.

354 SLIPPER. 1015 *Cypripedium.*

EMPAL. Sheath scattered. Fruit-stalk simple. Cup none.

BLOSS. Petals four or five; narrow and spear-shaped; very long; expanding; upright.

Honey-cup within the lower petal; shaped like a slipper; blown up; blunt; hollow; shorter and broader than the petals; the upper Lip small; egg-shaped; flat; bent inwards.

CHIVES. Threads two; very short; fixed to the pointal.

Tips upright; covered by the upper lip of the honey-cup.

POINT. Seedbud beneath: long; twisted. Shaft very short; growing to the upper lip of the honey-cup. Summit indistinct.

S.VESS. Capsule inversely egg-shaped; with three blunt edges; and three seams, under which it opens at the angles; Valves three; Cell one.

SEEDS. Numerous; very small. Receptacle strap-shaped; growing lengthways to each valve of the seed-vessel.

Ladies

Calceolus

SLIPPER. Roots fibrous ; leaves on the stem betwixt egg and spear-shaped—*Petals purple : honey-cups pale yellow.*

By cultivation the colour of the blossoms are changed to

1. Pale purple.
2. Golden yellow.
3. Large yellow.
4. Red.
5. Various coloured.

Calceolus Mariæ. *Gerard. 443. Ray's Syn. 385.*

Helleborine flore rotundo seu Calceolus. *Bauh pin. 187.*

Elleborine major seu Calceolus Mariæ. *Park. 217.*

Woods and rough grounds. P. July.

Goats eat it.

Order VIII. Many Chives.

355 CUCKOWPINT. 1028 Arum.

EMPAL. *Sheath* one leaf ; very large ; oblong ; lapped round at the base ; approaching at the top ; compressed in the middle ; coloured on the inside.

Sheathed Fruitstalk club-shaped ; undivided ; a little shorter than the sheath ; coloured ; set round with seedbuds on the lower part ; above the seedbud shrivelling.

BLOSS. None.

CHIVES. *Threads* none ; unless the honey-cups, which are thick at the base, and terminated in thread-shaped tendrils, growing in two rows round the middle of the fruit-stalk. *Tips* many ; sitting ; four-edged ; fixed to the fruit-stalk, and disposed between the two rows of tendrils.

POINT. *Seedbuds* many ; inversely egg-shaped ; covering the base of the fruit-stalk beneath the chives. *Shafts* none. *Summits* bearded with soft hairs.

S. VESS. *Berries* numerous ; globular ; with one cell.

SEEDS. Many ; roundish.

OES. *The wonderful and unparallelled structure of this flower hath given rise to many disputes amongst the most eminent Botanists.*

The Receptacle is long ; in shape of a club ; with the seedbuds surrounding its base. The Chives are fixed to the receptacle amongst the seedbuds, so that there is no occasion for the tips to be supported upon threads. For what use are those tendrils mentioned above ?

CUCK:

CUCKOWPINT. Without a stem. Leaves halberd-shaped; Spotted very entire. Fruit-stalk club-shaped.—*Leaves generally spotted. Maculatum Sheath conical; pale green. Berries red when ripe; growing in a naked cluster.*

Arum. Ray's Syn. 266. vulgare. Gerard. 834.

Arum vulgare maculatum et non maculatum. Park. 373.

Arum vulgare maculatum. Bauh. pin. 195.

Wake-Robin. Cuckowpint. Lords and Ladies.

Shady places, ditch banks and rough grounds. P. May.

It is susceptible of the following variations.

1. Spotted with white.
2. Spotted with black.
3. Leaves circular and spotted.
4. Leaves with white streaks and black spots.
5. Leaves not spotted.

The root and the leaves when recent, are so extremely acrid that is it highly disagreeable to taste them. The root has been employed in medicine as a stimulant, but when reduced to powder it loses much of its acrimony, and there is reason to suppose that the compound powder which takes its name from that plant, owes its virtues chiefly to the other ingredients. There is no doubt but this acrid quality may be turned to very useful purposes, but we must first learn how to ascertain its dose.—The root dried and powdered, is used by the French to wash their skin with. It is sold at a high price under the name of Cypress Powder. It is undoubtedly a good, and an innocent cosmetic.—When the acrimony of the roots is extracted either by boiling or baking, they certainly will afford a very mild and wholesome nourishment. Many nations prepare the only bread they have, from plants as acrimonious as this; first dissipating the noxious qualities by the force of heat.—Starch may be made from the roots.

CHIVES on the POINTAL.

356 GRASSWRACK. 1032 Zostera.

EMPAL. *Leaves* forming a sheath at the base; approaching length-ways; notched at the upper part on each side; inclosing the fruit-stalk. *Sheathed fruit-stalk* strap-shaped; flat; furnished with chives on one side upon the upper, and pointals on the lower part. *Cup* none.

BLOSS. None.

CHIVES. *Threads* alternate; many; very short; fixed upon the fruit-stalk above the seed-buds. *Tips* oblong egg-shaped; nodding; blunt; awl-shaped upwards and backwards; crooked.

POINT. *Seedbuds* not so numerous as the chives; egg-shaped; compressed; two-edged; standing upon little foot-stalks fixed to the end; nodding; alternate. *Shafts* none. *Summits* hair-like; simple.

S.VESS. Membranaceous; unchanged; opening length-ways at the side-edge.

SEED. Single; egg-shaped.

Sea
Marina

GRASSWRACK. Seed-vessels fitting.—*Leaves* growing under water and floating with the tide.

Alga. *Gerard*. 1569. *Ray's Syn.* 52.

Alga angustifolia Vitriariorum. *Baub. pin.* 564. *Ray's Syn.* 53.

Fucus marinus, five Alga marina graminea. *Park.* 1242.

Fucus five Alga marina graminea angustifolia feminifera ramiflor. *Ray's Syn.* 58.

1. *Stem* branching, about two ells or more in length, *Leaves* about half a foot long, and half an inch broad.

Branched grass-leaved, Seeding Seawrack.

Fucus marinus five Alga marina graminea minor. *Ray's Syn.*

52.

2. Smaller in every respect than the common species—Scarce a foot high.

Lesser Grass-wrack.

Potamogeton marinum inutriculis epiphyllispermon minus. *Ray's Syn.* 53.

3. Very much resembling variety 1, but much smaller seldom above a foot high.

This plant is thrown upon the sea-shore by the tide, in great plenty. Exposure to the weather bleaches it white. It is of great use as a manure. Buildings are thatched with it, and it endures a long time.—Horses and Swine eat it; Cows are not fond of it.

C L A S S

C L A S S. XXI.

ALL the Classes hitherto mentioned, are composed of Plants, whose Flowers contain the *Chives* and the *Pointals* within the *same* empalement; but the plants of this Class have the *Chives* in one flower, or in one empalement, and the *Pointals* in another. The flowers that contain the *Chives* are **BARREN**; those that contain the *Pointals* are **FERTILE**. The *Barren* and the *Fertile* flowers of this Class, are always found upon the *same* plant.

From this account it is evident, that in giving the Generic characters, it is necessary to describe both the *Barren*, and the *Fertile* Flowers. Therefore **B** signifies the *Barren Flower* or that with *Chives* only; and **F** signifies the *Fertile Flower*, or that with only *Pointals*.

Obs. *Florsts inclosed in a Common Empalement, though agreeing in the disposition of the Chives and Pointals; are not to be referred to this Class. This caution is necessary in order to exclude some of the Rundle bearing Plants of the fifth, and some of the Compound Flowers of the nineteenth Class.*

CLASS

C L A S S XXI.

Chives and Pointals Separate.

Order I. One Chive.

- 357 STONEWORT. B. *Cup* none. *Bluff.* none.
 F *Cup* four leaves. *Bluff.* none. *Sum-*
mit with five clefts. *Seed* one.
- 358 LAKEWEED. B *Cup* none. *Bluff.* none.
 F *Cup* one leaf. *Bluff.* none. *Point.*
four. Seeds four.
- † *Vernal Stargrass.*

Order II. Two Chives.

- 359 DUCKMEAT. B *Cup* one leaf. *Bluff.* none.
 F *Cup* one leaf. *Bluff.* none. *Shaft*
one. Capsule one cell.

Order III. Three Chives.

- 360 SEDGE. B *Catkin* with one flower in each
scale. Bluff. none.
 F *Catkin* with one flower in each
scale. Bluff. one. *Shaft* one
Seed one ; coated.
- 361 BURREED.

- 361 BURREED. B *Cup* three leaves. *Bloss.* none.
 F *Cup* three leaves. *Bloss.* none. *Summits* two; seed one.
 362 REEDMACE. B *Cup* three leaves. *Bloss.* none.
 F *Cup* hair-like. *Bloss.* none. *Shaft* one. *Seed* one; with a feather.

† *Everlasting Blite.*

Order IV. Four Chives.

- 363 NETTLE. B *Cup* four leaves. *Bloss.* none. *Honey-cup* glass-shaped.
 F *Cup* two valves. *Bloss.* none. *Summit* hairy. *Seed* one; egg-shaped.
 364 BOX. - B *Cup* three leaves. *Bloss.* two petals.
 F *Cup* four leaves. *Bloss.* three petals. *Summits* three. *Capsule* three cells.
 365 BIRCH. - B *Catkin* with three flowers in each scale. *Bloss.* with four divisions.
 F *Catkin* with two flowers in each scale. *Bloss.* none. *Shafts* two. *Seed* one; egg-shaped.

† *Tree Holly.* † *Grass-leaved Plaintain.*

Order V. Five Chives.

- 366 DITCHBUR. B *Cup* common; with many leaves. *Bloss.* five clefts. *Threads* connected.
 F *Cup* none. *Bloss.* none. *Shafts* two. *Nut* with two cells.
 367 EVERLASTING. B *Cup* individual, five leaves. *Bloss.* none. *Chives* three or five.
 F *Cup* individual, five leaves. *Bloss.* none. *Shafts* three. *Cups* cut round.

Order

more t

C L A

Chives ar

Bluff

es. Bluff. no.

Seeds four.

about seven divisions.

none. Chives about eight-

n.

p with about seven divisions.

Bluff. none. Pointal one. Seed
one.

357

B

Cup three or four leaves. Bluff.
with four divisions. Chives about
thirty two.

F

Cup three or four leaves. Bluff.
four petals. Pointals two. Seeds
two; inclosed.

372 BEECH.

B

Cup with five clefts. Bluff. none
Chives about twelve.

F

Cup with four clefts. Bluff. none.
Shafts three. Capsule with two
feeds.

373 OAK.

B

Cup with five clefts. Bluff. none.
Chives about ten.

F

Cup entire. Bluff. none. Shafts five.
Seed an Acorn.

374 HAZLE.

B

Catkin tiled. Bluff. none. Chives
eight.

F

Cup two leaves. Bluff. none. Shafts
two. Fruit a Nut.

375 HORNBEAM.

B

Catkin tiled. Bluff. none. Chives
ten.

F

Cup with six clefts. Bluff. none.
Pointals two. Fruit a Nut.

Order

Order IX.

B C

CHIVES

ickles at the joints; semi. Smooth
 Leaves long; slender; Flexilis
 generally eight together.

n. 133

nd slender— Creeping
 deeper green, Repens
 crown.—It

- D Cup with five
 five divisions. C.
- F Cup with five teeth.
 five divisions. Shaft with
 clefts; fruit a Berry.

Order VIII. Many Chives, (more than Seven.)

- 368 ARROWHEAD. B *Cup* three leaves. *Bloff.* three petals. *Chives* about twenty-four.
 F *Cup* three leaves. *Bloff.* three petals. *Pointals* one hundred. *Seeds* numerous.
- 369 MILFOIL. B *Cup* four leaves. *Bloff.* none. *Chives* eight.
 F *Cup* four leaves. *Bloff.* none. *Pointals* four. *Seeds* four.
- 370 HORNWEED. B. *Cup* with about seven divisions. *Bloff.* none. *Chives* about eighteen.
 F *Cup* with about seven divisions. *Bloff.* none. *Pointal* one. *Seed* one.
- 371 IRONWORT. B *Cup* three or four leaves. *Bloff.* with four divisions. *Chives* about thirty two.
 F *Cup* three or four leaves. *Bloff.* four petals. *Pointals* two. *Seeds* two; inclosed.
- 372 BEECH. B *Cup* with five clefts. *Bloff.* none. *Chives* about twelve.
 F *Cup* with four clefts. *Bloff.* none. *Shafts* three. *Capful* with two seeds.
- 373 OAK. - B *Cup* with five clefts. *Bloff.* none. *Chives* about ten.
 F *Cup* entire. *Bloff.* none. *Shafts* five. *Seed* an *Acorn*.
- 374 HAZLE. - B *Catkin* tiled. *Bloff.* none. *Chives* eight.
 F *Cup* two leaves. *Bloff.* none. *Shafts* two. *Fruit* a *Nut*.
- 375 HORNBEAM. B *Catkin* tiled. *Bloff.* none. *Chives* ten.
 F *Cup* with six clefts. *Bloff.* none. *Pointals* two. *Fruit* a *Nut*.

Order

Order IX. Threads United.

- 376 FIR. - - B *Cup* four leaves. *Bloss.* none.
Chives many.
 F *Catkin* like a cone. *Bloss.* none.
Point. two. *Nuts* two ; winged.

Order X. Tips United.

- 377 BRYONY. B *Cup* with five teeth. *Bloss.* with
 five divisions. *Chives* three.
 F *Cup* with five teeth. *Bloss.* with
 five divisions. *Shaft* with three
 clefts ; fruit a *Berry*.

357 STONE-

357 STONEWORT. 1203 Chara.

B. Fertile Flowers.

EMPAL. Cup four leaves; awl-shaped; upright; permanent. The two outer ones opposite, and longer than the other two.

BLOSS. None.

POINT. Seedbud turban-shaped. Shaft none. Summit with five clefts; oblong; deciduous.

S. VESS. The Coat egg-shaped; of one cell; adhering to the seed.

SEED. Single; egg shaped; marked with spiral lines.

F. Barren Flower at the base of the seedbud, on the outward side of the empalement.

EMPAL. Cup as above.

BLOSS. None

CHIVE. Threads none. Tip globular, placed before and below the seedbud, without the empalement.

Brittle
Tomentosa

STONEWORT. Prickles on the stem egg-shaped—*The roots fibrous. The whole plant is brittle and gritty in the mouth. Whilst growing it is of a flesh colour; but when dry it turns of an ash colour.*

Chara major, sub-cinerea fragilis. Ray's Syn. 132.

Equisetum seu Hippuris coralloides. Gerard. 1115.

Brittle Chara Hudson 465.

Ditches and stagnant waters. P. ?

Common
Vulgaris.

STONEWORT. Stems smooth; leaves toothed on the inner side—*Flowers in the divisions of the stem. The whole plant is yellowish or reddish green.*

Chara vulgaris fetida. Ray's Syn. 132.

Equisetum fetidum sub aqua repens. Gerard. 1115. Bauh. pin. 16. Park. 1201.

Stinking Water Horse-tail.

Common Chara. Hudson 465.

Ditches and stagnant waters. P. ?

Prickly
Hispida

STONEWORT. Prickles on the stem, hair-like and crowded together—*Whitish green.*

Chara major caulibus spinosis. Ray's Syn. 132.

Prickly Chara. Hudson 465.

Ditches and turf bogs. P. ?

STONE-

STONEWORT. Stems without prickles at the joints; semi- Smooth transparent; broadest towards the top—*Leaves long; slender; Flexilis entire. Flowers at the base of the leaves; generally eight together.*

Chara translucens minor flexilis. Ray's Syn. 133

Smooth Chara. *Hudson 465.*

Ponds, Ditches and Bogs. P.

STONEWORT. Stems and leaves very fine and slender— Creeping *Longer than those of the common STONEWORT, of a deeper green, Repens and more flexible. Seeds roundish, shining, of a reddish brown.—It appears to float under water.*

Chara minor caulibus et foliis tenuissimis. Ray's Syn. 13.

Creeping Water Horse-tail.

Ponds and ditches. P.

This though evidently a different species does not appear to have been noticed by Linnæus or Hudson. The specific character is therefore formed from Ray's description.

358 LAKEWEED. 1034 Zannichellia.

B. Barren Flower.

EMPAL. None.

BLOSS. None.

CHIVE. Thread single; simple; long; upright. *Tip egg-shaped; upright.*

F. Fertile. Flower standing near the other.

EMPAL. Cup one leaf; hardly perceptible; distended; with two teeth.

BLOSS. None.

POINT. Seedbuds four; like little horns; approaching. Shafts four; simple; rather expanding. *Summits egg-shaped; flat; expanding outwards.*

S. VESS. None.

SEEDS. Four; oblong; tapering at each end; hunched on one side; covered with a bark; crooked; reflected.

LAKEWEED. As there is only one species known Linnæus Horned gives no description of it—*Stems jointed; branched; floating in Palustris the water. Leaves opposite. Flowers at the base of the leaves.*

Aponogiton aquaticum gramine folium, staminibus singularibus.

Ray's Syn. 135.

Horned Pondweed

Ditches and stagnant waters. A. July.

Order II. Two Chives.

359 DUCKMEAT. 1038 Lemna.

B.

EMPAL. One leaf; circular; opening at the side; obliquely dilated outwardly; blunt; expanding; depressed; large; entire.

BLOSS. None.

CHIVES. *Threads* two; awl-shaped; crooked; as long as the cup. *Tips* double; globular.

POINT. *Seedbud* egg-shaped. *Shaft* short. *Summit* indistinct.

S.VESS. Barren.

F. *Fertile Flowers*.

EMPAL. Cup as above.

BLOSS. None.

POINT. *Seedbud* somewhat egg shaped. *Shaft* short; permanent. *Summit* simple.

S.VESS. *Capsule* globular, with a point at the end; and with one cell.

SEEDS. Several; oblong; sharp at each end; nearly as long as the capsule; scored on one side.

Obs. *If the pointals in the B. flower had been perfect and produced perfect seeds, this genus must have been referred to the twenty-third class.*

Ivy-leaved
Trifolca

DUCKMEAT. Leaves spear-shaped; on leaf stalks.—*Stems flattened and proliferous; crossing each other.*

Lenticula aquatica trifolca. Bauh. pin. 362. Ray's Syn. 129.

Hederula aquatica. Gerard. 830.

Ranunculus hederaceus aquaticus. Park. 1260.

Ditches and stagnant waters. P. May—June.

Least
Mindr

DUCKMEAT. Leaves flattish on each side. Roots solitary—

Lens palustris. Gerard. 829. Ray's Syn. 129. tab. 4. fig. 1.

Lens palustris vulgaris. Bauh. pin. 362;

Lens palustris seu aquatica vulgaris. Park. 1262.

On stagnant waters. P. June.

Greater
Polyrhiza

DUCKMEAT. Leaves sitting; roots crowded together.—*Leaves green on the upper, purple on the under surface.*

Lenticula palustris major. Ray's Syn. 129. tab. 4. fig. 2.

Ditches. A. June—July.

All the species are acceptable food for Ducks and Geese.

Order

Order III. Three Chives.

360 SEDGE. 1046 Carex.

B. Barren Flowers forming a Spike.

EMPAL. Catkin oblong ; tiled ; consisting of Scales, each including a single flower ; spear-shaped ; sharp ; concave ; permanent.

BLOSS. None.

CHIVES. Threads three ; bristle-shaped ; upright ; longer than the inclosing scale. Tips upright ; long ; strap-shaped.

F. Fertile Flowers the same, but sometimes on distinct Plants.

EMPAL. Catkin as above.

BLOSS. Petals none.

Honey-cup blown up ; oblong egg-shaped ; with two or three teeth at the end ; contracted towards the upper part ; mouth open ; permanent.

POINT. Seedbud three-cornered ; within the honey-cup. Shaft very short. Summits three or two ; awl-shaped ; bent inwards ; long ; tapering ; downy.

S. VESS. None. The Honey-cup enlarging contains the seed.

SEED. Single ; egg-shaped but sharp ; three-cornered ; one of the angles smaller than the other two.

OBS. In some species the two kinds of flowers are found upon the same spike ; but in others they are upon different spikes (See the Plate of Grasses)

* Spikes single ; simple ; with fertile and barren flowers on distinct plants.

SEDGE. Spike simple. The flowers with only chives Small and the flowers with only pointals on distinct plants.—Leaves Dioica and straw three-cornered.

Gramen cyperoides minus ranunculi capitulo longiore. Ray's Syn. 427.

Turf bogs. P. June.

* * Spike simple ; composed of fertile and barren flowers.

Round-leaved SEDGE. Spike simple ; egg-shaped ; the flowers with
Capitata only chives forming the upper part of the spike. Capsules tiled,
but not lying close.—*Spike exactly egg-shaped.*

Gramen cyperoides minimum ranunculi capitulo rotundo.
Ray's Syn. 425.

Turfy bogs. P. June.

Flea SEDGE. Spike simple ; the flowers with chives form-
Pulicaris ing the upper part of the spike. Capsules straddling ; reflected
backward—*Straw cylindrical, but flattish on one side. When out of*
blossom the barren flowers fall off. The Seeds sharp and hooked at
the end.

Gramen cyperoides minimum, seminibus deorsum reflexis
puliciformibus. *Ray's Syn.* 424.

Muddy Marshes. P. June.

* * * Spike composed of both fertile and barren flowers.

Sea SEDGE. Spike compound. Little spikes composed of fertile
Arenaria and barren flowers ; the lower ones more remote and furnished
with a leaf longer than the spike. Straw three cornered—*Root*
creeping ; thread-shaped ; simple ; horizontal ; jointed ; about four
inches beneath the surface of the ground. joints rather distant, and from
each joint rises a jointed Stem, which beneath the surface is covered
with a brown sheath ; even with the surface it sends out many Leaves,
the outer ones short ; the inner ones narrow and as tall as the Straw
which is naked, without knots ; supporting the spike at the end. Spike
of a rusty iron colour.

Gramen cyperoides ex monte Ballon simile humilium ; in
maritimis et arenosis nascens. *Ray's Syn.* 423.

Gramen cyperoides elegans multifera spica. *Park.* 1172.

On sandy sea shores. P. June—July.

Naked SEDGE. Spike compound. Little spikes sitting ; egg-
Leporina shaped : growing near each other ; alternate ; composed of
barren and fertile flowers not furnished with a leaf—*Spikes com-*
posed of five or six little spikes. Florets separated by grey chaff, longer
than the seeds. Shafts crooked. Stalks twelve or sixteen inches high ;
hollow.

Gramen cyperoides spica e pluribus spicis brevibus mollibus
composita. *Ray's Syn.* 422.

Gramen cyperoides palustre majus spica divisa. *Baub. pin.* 6.
In marshes and watery places. P. June—July.

SEDGE. Spike compound; little spikes round; crowded; Marth composed of barren and fertile flowers; each furnished with a Divisa little leaf longer than the spike; straw nearly cylindrical—*Taller than the preceding; leaves longer and narrower; straw not so evidently hollow; little Spikes smaller; each supported by a leaf which rising above the spike gives it a resemblance to the straw of the Rush.*

Gramen cyperoides ex monte Ballon spica divulsa. Ray's Syn. 423.

Gramen cyperoides palustre majus spica divulsa. Baub. pin. 6.

Gramen cyperoides palustre minus. Park. 1287.

Gramen cyperoides parvum. Gerard. 21.

In marshes and low meadows. P. August.

SEDGE. Spike compound; nearly two-rowed; little spikes Soft egg-shaped, tiled, composed of barren and fertile flowers, each Disticha furnished with a leaf longer than the spike; straw three cornered—*Taller than either of the preceding; hollow, but less so than the former species; Spike of a rusty iron colour, and at first soft to the touch.*

Gramini cyperoidi ex monte Ballon simile, spica totali e pluribus spicis composita. Ray's Syn. 423.

Gramen cyperoides elegans multifera spica. Park. 1172.

1. *Gramen cyperoides elegans spica composita molli. Plukenet ph. 134. f. 4.*

In marshes and watery places. P. May—June.

SEDGE. Spike more than doubly compound; least compact Great in the lower part. Little spikes egg-shaped; congregated; com- Vulpina posed of fertile and barren flowers; the barren flowers placed above—*Straw thick; firm. Spike thick; rough on every side. Sheath of the leaves terminated on the inner side by a sharp tongue, as in the grasses.*

Gramen cyperoides palustre majus, spica compacta. Baub. pin. 6. Ray's Syn. 423.

Gramen palustre cyperoides. Gerard. 21.

Gramen cyperoides palustre majus. Park. 1266.

Banks of rivers. P. July.

Horses and goats eat it; Swine refuse it.

Spiked
Spicata

SEDGE. Little spikes roundish ; near together : composed of barren and fertile flowers ; seed vessels egg-shaped ; sharp. (Hudson)—*Smaller than the preceding, which in many respects it very much resembles. Spikes smaller and less compact. Straws less upright. Leaves narrow, and shorter than the straw.*

Gramen cyperoides spicatum minus. Ray's Syn. 424.

Gramen cyperoides spicis minus compactis. Park. 1268.

Gramen cyperoides parvum. Gerard. 18.

Gramen cyperoides spicis minoribus minusque compactis. Baub. pin. 6.

Lesser spiked cyperus-grass.

In watery places, and on the banks of rivers. P. May—June.

Rough
Brizoides

SEDGE. Spike compound ; pointing from two opposite lines ; naked. Little spikes oblong ; contiguous ; composed of fertile and barren flowers. Straw without leaves—

Gramen cyperoides palustre elegans spica composita asperiore. Ray's Syn. 423.

In pools and marshes, A. June.

Prickly
Muricata

SEDGE. Little spikes somewhat egg-shaped ; sitting ; at a distance from each other ; composed of fertile and barren flowers. Capsules sharp ; diverging ; thorny.—*Straw naked ; three cornered : six or eight inches high. Leaves narrow ; harsh ; as long as the straw.*

Gramen cyperoides spicatum minimum, spica divulsa aculeata. Ray's Syn. 424.

Gramen nemorosum spicis parvis asperis. Baub. pin. 7.

Gramen cyperoides echinatum minimum. Park. 1272.

Marshes and moist woods. P. June.

Horses and Goats eat it.

Long-leaved
Remota

SEDGE. Spikes egg-shaped ; almost sitting ; at a distance from each other ; composed of fertile and barren flowers. Floral leaves as tall as the straw.—*Leaves narrow ; Straw three cornered. Scales of the spike white, with a greenish line*

Gramen cyperoides angustifolium, spicis parvis sessilibus, in foliorum alis.

Ditch banks and moist woods. P. June—August.

Grey
Canescens

SEDGE. Little spikes somewhat round ; at a distance from each other ; sitting ; blunt ; composed of fertile and barren flowers. Capsules egg-shaped ; rather blunt.—

Gramen cyperoides spicatum minus, spica longa divulsa, seu interrupta. Ray's Syn. 424.

—Hedges and moist woods. P. May—August.

SEDGE.

SEDGE. Flowers in a compound bunch, little spikes Panicked composed of fertile and barren flowers.—*Straw three cornered*; Paniculata *barsh*; *three feet high*. Leaves *barsh*; narrow. Panicle *brown*.

Gramen cyperoides palustre elatius, spica longiore laxa. Ray's Syn. 422.

Putrid bogs and marshes. P. June—July.

**** Barren and fertile Flowers on different spikes; the fertile spikes fitting.

SEDGE. Spikes crowded together; nearly fitting; some. Yellow what roundish. The barren spike narrow; capsules sharp; bent Flava back—

Gramen cyperoides aculeatum Germanicum, vel minus. Baub. pin. 7.

Gramen palustre echinatum. Gerard. 17. Ray's Syn. 421.

Gramen aculeatum Germanicum. Park. 1187.

1. There is a variety that is larger.

Gramen cyperoides echinatum majus. Ray's Syn. 421.

Marsh Hedge-hog Grass.

Marshes and wet meadows. P. June.

SEDGE. Spikes with fertile flowers fitting; oblong. The Birds-foot lower spike at the base of the leaves. Leaves nearly thread-Pedata shaped.—*Straw naked, six inches long*; about seven florets in each fertile spike. Fertile spikes two; alternate; dark rusty brown. Barren spike single; terminating: paler.

Gramen caryophyllum nemorosum, spica multiplici.

Gramen caryophyllum angustissimis foliis. Baub. pin. 4.

Spicis sessilibus brevioribus erectis non compactis. Ray's Syn. 418.

In woods and moist pastures. P.

SEDGE. Spikes terminating; crowded; roundish. Barren Globular spike oblong.—*Leaves very slender, short and soft*; fertile Spikes Pilulifera from two to four. Straw about a foot high.

Gramen cyperoides tenuifolium spicis ad summum caulum sessilibus globulorum æmulis. Ray's Syn. 422.

1. Fertile Spikes mostly two, each supported by a leaf.

Gramen cyperoides angustifolium majus spicis sessilibus in foliorum alis. Ray's Syn. 422

Dillenius makes this a variety of the preceding—It is said to be larger, and with short thick spikes, one smaller than the rest, seated at the base of one of the leaves. Ray's Syn. 422.

Gramen cyperoides spicis brevibus congestis, folio molli. Ray's Syn. 421.

2. This variety seems to answer more exactly to Linnaeus's character than the former. The *fertile Spikes*, which are three or four in number, being crowded nearer together.—They do not appear to be supported by a leaf as in the preceding variety, which seems to form one of the principal distinctions between them.

In marshes and wet pastures. P. June—July.

Vernal
Saxatilis

SEDGE. Spikes three; egg-shaped; fitting; alternate. Barren spike oblong—*Terminating*; roundish; yellow. Tips yellow. Fertile spikes black; flowers separated by scales, as long as the pointals. Seedbuds three-cornered; black. Shafts black; long; cloven. Under the lowest spike there is a slender leaf, shorter than the spike. Mr. Ray says the spikes are three or four, and sometimes one lower than all, rising from the base of one of the leaves.

Gramen cyperoides vernum minimum. Ray's Syn. 421.

Gramen cyperoides spicatum. Gerard. 22.

Gramen caryophyllatæ foliis, spica divulsa. Baub. pin. 3.

Gramen spicatum. foliis caryophylleis. Park. 1160.

Mountainous and barren pastures. P. April—May.

* * * * * Barren and fertile flowers on different spikes. The fertile spikes on fruit-stalks.

Pale
Pallidescens

SEDGE. Spikes pendant. Barren spike upright. Fertile spikes egg-shaped: tiled. Capsules crowded: blunt—Leaves though hardly reaching the straw yet rise above it. Fertile spikes whitish or yellowish: tiled on every side, all growing on foot-stalks. Floral leaves permanent. Barren spike greenish white.

Gramen Cyperoides Polystachion flavicans, spicis brevibus prope summitatum Caulis. Ray's Syn. 419.

Moist pastures. P. May.

Pink
Panicea

SEDGE. Spikes on fruit-stalks; upright; at a distance from each other; fertile spikes strap-shaped; capsules rather blunt; bladder-shaped—

Gramen cyperoides foliis Caryophylleis, spicis e rarioribus et tumidioribus granis compositis. Ray's Syn. 418.

Turfy bogs. P. June—July.

Cows, Sheep and Goats eat.

SEDGE.

SEDGE. Spikes pendant. Fruit-stalks in pairs—*Capsules* Bastard when ripe, awl-shaped; scored; tapering and ending in a double Pseudo cypew, which is bent back at the end. Floral leaves bristle shaped. rus
Spikes yellowish.

Gramen cyperoides spica pendula brevior. *Baub. pin. 6.*
Ray's Syn. 419.

Cyperus, seu Pseudo-Cyperus spica pendula brevior. *Park. 1266.*

Pseudo-cyperus. *Gerard. 29.*

Banks of wet ditches. P. July.

Cows, Sheep and Goats eat it.

SEDGE. Spikes pendant; barren spike upright. Fertile Pendulous cylindrical; longer than the fruit-stalks. Capsules tapering to Pendula a point. (*Hudson*)—*Spikes yellowish, fertile spikes mostly five, or more.*

Gramen cyperoides, spica pendula longior. *Park. 1267.*
Ray's Syn. 420.

Gramen spica pendula longior et angustior. *Baub. pin. 6.*

Gramen cyperoides polystachion majusculum latifolium, spicis multis, longis, strigosis. *Ray's Syn. 419.*

Woods and moist hedges. P. June—July.

SEDGE. Spikes upright; cylindrical, growing by threes; nearly sitting; barren spike terminating. Straw three-cornered Turfy
—*Leaves narrow; long; of a fine green. The two fertile spikes Coelipitosa almost black; tiled with yellowish; egg-shaped; blunt; upright capsules. Straw naked; with three equal, flat sides. Under the lower spike is a little leaf longer than the spike. The leaves under the other spikes are shorter.*

Gramen cyperoides foliis caryophylleis, spicis erectis sessilibus, e seminibus confertis compositis. *Ray's Syn. 418.*

Gramen cyperoides angustifolium, spica spadiceo-viridi minus. *Baub. pin. 6.*

Meadows and moist woods. P. May—June.

This plant as well as the Dwarf BULLWASH, begins spontaneously to grow upon boggy mosses, and forming compact hillocks, affords a support for men to walk upon; so that in the course of time, the most dangerous bogs are changed into firm and useful land.—Cows, Sheep, Goats and Horses eat it.

SEDGE. Spikes on short fruit-stalks; at a great distance from each other; sheathed by a floral leaf. Capsules angular; sharp-pointed—*Leaves soft. Spikes not hanging down. Scales of the flower-cup sharp.* Loose
Distant

Gramen cyperoides spicis parvis, longissime distantibus. *Ray's Syn. 420.*

Turfy bogs. P. June.

SEDGE.

Wood
Sylvatica

SEDGE. Spikes pendant; barren spike upright. Fertile spikes thread-shaped; shorter than the fruit-stalks. Capsules sharp; at a distance from each other—Hudson. 355. *Spikes of a yellowish colour, as is the whole plant.*

Gramen cyperoides sylvarum tenuius spicatum. Park. 1171. Ray's Syn. 419.

In woods. P. May—June.

Linnaeus considers it only as a variety of the *Bladder SEDGE*.

***** *Fertile and barren flowers on different spikes; the barren spikes most in number.*

Brown
Acuta

SEDGE. Barren spikes most numerous. Fertile spikes on very short fruit-stalks; capsules rather blunt—*In dry situations blackish; in wet ones, reddish brown.* Shaft cloven; hairy; white; not permanent. Floral leaves egg-shaped; brown, with a green stripe running lengthways.

Gramen cyperoides. Gerard. 12. latifolium spica rufa, seu caule triangula. Bauh. pin. 6.

Gramen cyperoides cum paniculis nigris. Ray's Syn. 417.

Gramen cyperoides majus latifolium. Park 1265.

Gramen cyperoides majus angustifolium. Gerard. 1265.

1. Large; with narrow leaves. *Park. 1265. Ray's Syn. 417.*

In this variety there are sometimes more fertile than barren spikes. It is smaller than the preceding variety in every respect, except in height, in which it is equal.

2. Small, with narrow leaves.

Gramen cyperoides minus angustifolium. Park. 1266. fig. 3.

a smaller variety of the preceding variety.

In watery places.

1. On the banks of brooks and rivers; sometimes growing in the water. 2. In ponds and ditches.

Horses, Cows, Sheep and Goats eat it.

Bladder
Vesicaria

SEDGE. Barren spikes most numerous. Fertile spikes on fruit-stalks. Capsules bladder-shaped; tapering to a point—*The shaft in this species is very short; permanent; cloven; but not very evidently so.* Floral leaves spear-shaped; tapering; brownish at the edges. Fertile spikes yellow. Barren spikes brown.

Gramen cyperoides majus præcox, spicis turgidis, teretibus, flavescentibus. Ray's Syn. 420.

Greater Bladder Carex.

Marshes and wet places. A. June.

Cows, Goats and Sheep eat it.

The Laplanders fill their shoes with it, to protect their feet from the cold in winter and from the heat in summer. For this purpose they pick, dry and card it.

SEDGE.

SEDGE. Barren spikes most numerous ; fertile spikes fit-Inflated
ting. Seedvessels egg-shaped ; distended ; tapering to a point. Inflata
Floral leaves twice as long as the spike. *Hudson.*

Gramen cyperoides palustre, spicis tribus subrotundis, vix
aculeatis, spatio distantibus. *Ray's Syn.* 420.

Lesser Bladder Carex. *Hudson.* 354.

In Marshes. P. June—July.

SEDGE. Spikes at a distance from each other. Barren spikes Hairy
most numerous. Fertile spikes on short fruit stalks ; upright. Hirta
Capsules hairy—*Leaves standing out of their sheathes ; white and*
dowry.

Gramen cyperoides polystachion lanuginosum. *Ray's Syn.* 418.

Gramen cyperoides Norvegicum pariumlanosum. *Park.* 1172.

Meadows and wet pastures. P. June.

361 BUR-REED. 1041 Sparganium.

B. Barren Flowers numerous ; collected into a little head.

EMPAL. Common Catkin roundish ; tiled very closely on
every side ; consisting of proper Cups with three
leaves ; narrow ; deciduous.

BLOSS. None.

CHIVES. Threads three ; hair-like ; as long as the cup.
Tips oblong.

F. Fertile Flowers.

EMPAL. As above. Common Receptacle roundish.

BLOSS. None.

POINT. Seedbud egg-shaped ; ending in a short awl-shaped
Shaft. Summits two ; sharp ; permanent.

S.VESS. Not very pulpy ; turban-shaped, but termi-
nated by a point ; angular beneath.

SEEDS. Nuts two ; hard as bone ; oblong egg-shaped ;
angular.

OBS. Sometimes there is only one, at other times two cells in the
seed vessel.

BUR-REED. Leaves upright ; three cornered.—

Sparganium ramosum. *Park.* 1205. *Gerard.* 45. *Baub.* Great
pin. 15. *Ray's Syn.* 437. Erectum

Sparganium non ramosum. *Baub.* *pin.* 15.

Wet ditches and banks of rivers. P. July.

Horses and Swine eat it ; Coys are not fond of it ; Sheep and
Goats refuse it.

BUR-

CHIVES and POINTALS Separate.

Letter
Natans

BUR-REED. Leaves drooping; flat.—
Sparganium minimum. Ray's Syn. 437.
Least Bur-reed.
Ponds and slow streams. P. July.
Cows eat it.

362 REEDMACE. 1040 Typha.

B. Barren flowers numerous; forming a catkin at the end of the straw.

EMPAL. Catkin common, cylindrical; very closely set; consisting of individual cups with three leaves; bristle-shaped.

BLOSS. None.

CHIVES. Threads three; hair-like; as long as the cup. Tips oblong; pendant.

F. Fertile flowers numerous; set exceedingly close; forming a catkin, which surrounds the straw.

EMPAL. Hairs feathered.

BLOSS. None.

POINT. Seedbud sitting upon a bristle; egg shaped. Shaft awl-shaped. Summit hair-like; permanent.

S. VESS. None. The fruit very numerous and forming a cylinder.

SEED. Single; egg-shaped; furnished with a shaft, and sitting upon a bristle. Feather hair like; fixed to the bristle supporting the seed, and as long as the pointal.

Cat's-tail
Latifolia

REEDMACE. Leaves somewhat sword-shaped. The spikes of fertile and barren flowers placed near together—*Sheaths two; deciduous: one placed at the base and the other at the middle of the barren spike.* Spikes brown.

Typha, Gerard. 46. palustris major. Bauh. pin. 20. Ray's Syn. 436.

Typha palustris maxima. Park. 1204.

Great Cats-tail.

Banks of rivers and fish-ponds.

Smaller
Angustifolia

REEDMACE. Leaves semi-cylindrical; spikes of fertile and barren flowers placed at a distance from each other—

Typha palustris media. Ray's Syn. 436.

Typha palustris clava gracili. Bauh. pin. 20.

Typha minor. Park. 1204.

Narrow-leaved Cats-tail.

Ditches and ponds. P. July.

Cows eat it; Swine reinte it.

Order IV.

Order IV. Four Chives.

363 NETTLE. 1054 Urtica.

B. *Barren flowers.*EMPAL. Cup four leaves. *Little Leaves* circular ; concave ; blunt.BLOSS. *Petals* none.*Honey-cup* in the center of the flowers ; glass shaped ; entire ; narrower at bottom ; very small.CHIVES. *Threads* four ; awl-shaped ; as long as the cup ; expanding ; one placed within each leaf of the cup. *Tips* with two cells.F. *Fertile flowers upon the same, or upon distinct plants.*

EMPAL. Cup with two valves ; egg-shaped ; concave ; upright ; permanent.

BLOSS. None.

POINT. *Seedbud* egg-shaped. *Shaft* none. *Summit* woolly.

S. VESS. None. Cup closing.

SEED. Single ; egg-shaped ; compressed and blunt ; shining.

OBS. *In the Common Nettle the cup of the barren flower consists of one leaf divided into four segments ; and the cup of the fertile flower consists of four valves ; the two innermost and largest supplying the place of a seed vessel.*NETTLE. Leaves opposite ; egg-shaped ; serrated. Fruit Roman bearing Catkins globular. PiluliferaUrtica urens pilulas ferens. *Bauh. pin.* 232.Urtica Romana. *Gerard.* 784. *Park.* 440.Urtica pilulifera, folio profundius urticae majoris in modum ferrato, semine magno Lini. *Ray's Syn.* 140.

Amongst rubbish. A. July.

NETTLE. Leaves opposite ; oval—*Deeply serrated.*Urtica minor. *Gerard.* 704. *Ray's Syn.* 140.Urtica urens minor. *Bauh. pin.* 232.

Lesser Nettle.

Gardens and amongst rubbish. A. August.

The stings are very curious microscopic objects : They consist of an exceedingly fine pointed, tapering, hollow substance, with a perforation at the point, and a bag at the base. When the sting is pressed upon, it readily punctures the skin, and the same pressure forces up an acrimonious fluid from the bag, which instantly squirts into the wound, and produces an effect that every one has experienced.

The

The leaves are gathered and cut to pieces, to mix with the food of young Turkeys.—Cows, Horses, Sheep, Goats and Swine refuse it.

Common
Dioica

NETTLE. Leaves opposite; heart-shaped. Flowers in bunches, which grow in pairs—*Leaves serrated; stinging.* Catkins brown. Barren and fertile flowers on distinct plants.

Urtica urens Gerard. 404. maxima. Baub. pin. 232.

Urtica racemifera major perennis. Ray's Syn. 139.

Ditch-banks and amongst rubbish. P. July.

The chives afford a very pleasing appearance: they are rolled inwards under the segments of the cup, which fold over them till they are ripe; when the segments gradually expanding, the chives released from their confinement roll backwards with an elastic force, and discharge the contents of their transparent tips, which floats in the air like a cloud of dust, that it may arrive at the summits of the fertile flowers, (which grow on distinct plants,) and fertilize the seedbud.—The stalks may be dressed like Flax or Hemp, for making Cloth, or Paper.—The plant has formerly been used as an astringent, but is now disregarded.—A leaf put upon the tongue, and then pressed against the roof of the mouth, is pretty efficacious in stopping a bleeding at the nose.—Paralytic limbs have been recovered by stinging them with Nettles.—The young shoots are gathered early in the spring to boil in broth or gruel.—Cows eat the leaves when they are a little withered.—The leaves are cut to pieces to mix with the food of young Turkeys, and other Poultry.—The different species of NETTLE afford nourishment to the following Insects:

Admiral, or Admirable Butter-fly, *Papilio Atalanta*.

Comma Butterfly, *Papilio C. album*.

Painted Lady Butterfly, *Papilio Cardui*.

Peacock Butterfly, *Papilio Io*.

Small Tortoise-shell Butterfly, *Papilio Urtice*.

Great Fritillary Butterfly, *Papilio Paphia*.

Crimson and Gold Moth. Dot Moth. Likeness egger Moth.

Snout likeness egger Moth. Small Magpie Moth, *Phalena Urticata*.

Dingy China mark likeness Moth. White plumed Moth, *Phalena Didactyla*.

Angle-shades Moth, *Phalena Meticulosa*.

Large Tyger Moth, *Phalena Carya*.

Scarlet Tyger Moth, *Phalena Dominula*.

Wood Tyger Moth, *Phalena Plantaginis*.

Spotted Buff Moth, *Phalena Lubricipeda*.

Cream spot Tyger Moth, *Phalena Villica*.

Mother of Pearl Moth, *Phalena Verticalis*. *Phalena Rosfralis*.

Nettle

Nettle Top Moth, Blossom Underwing Moth. Yellow Moth,
Phalena Interrogationis.

The Gothic Moth on the roots. Nettle Weevil, *Curculio*
Scaber.

Nettle Louse, *Aphis Urticae*. *Cbermes Urticae*.

364 BOX. 1053 Buxus.

B. *Barren flowers projecting from the buds of the tree.*

EMPAL. *Cup* three leaves; circular; blunt; concave;
expanding.

BLOSS. *Petals* two; circular; concave; resembling the
cup, but larger.

CHIVES. *Threads* four; awl-shaped; upright but expand-
ing, generally longer than the cup. *Tips* upright;
double.

POINT. *Seedbud* only a rudiment, without shaft or sum-
mit.

F. *Fertile Flowers in the same bud with the others.*

EMPAL. *Cup* four leaves. *Little Leaves* circular; blunt;
concave; expanding.

BLOSS. *Petals* three; circular; concave; resembling the
cup but larger.

POINT. *Seedbud* roundish; with three blunt edges; end-
ing in three very short permanent *Shafts*. *Summits*
blunt; rough with hair.

S.VESS. *Capsule* roundish; with three bills and three
cells; opening elastically in three directions.

SEEDS. Two; oblong; roundish on one side; flat on
the other.

BOX. As there is only one species known Linnaeus gives no Tree
description of it—*Leaves oval; thick; glossy*. Blossoms *greenish*. *Semper virens*
white.

Buxus. Gerard. 1410. Ray's Syn. 445.

Buxus arborescens. Baub. pin. 471.

Buxus arbor vulgaris. Park. 1428.

Buxus angustifolia. Ray's Syn. 445.

Box Tree.

Woods and hedges. P. April.

The varieties are,

1. Leaves striped with yellow.
2. Leaves edged with yellow.
3. Leaves edged with white.
4. Leaves broad and striped with white.
5. Narrow leaved.
6. Small leaved with yellow edges.
7. Leaves yellow at the ends.
8. Dwarf round-leaved.
9. Dwarf with striped leaves.

The wood is very hard and smooth; and therefore well adapted for the use of the Turner. Combs, Mathematical Instruments, Knife-handles, and button-moulds are made of it.—An empyreumatic oil distilled from the shavings is often used as a topical application for the piles, and seldom fails to procure ease.

365 B I R C H. 1052 Betula.

B. Barren flowers forming a cylindrical Catkin.

EMPAL. *Catkin*, common; tiled on every side; loose; cylindrical; consisting of *Scales*, with three flowers in each; to the sides of each of which are fixed two exceedingly small scales.

BLOSS. *Compound*, with three florets; equal; fixed to the center of each scale of the cup.

Individuals formed of one petal; with four divisions; expanding; very small. *Segments* egg-shaped; blunt.

CHIVES. *Threads* four; very small. *Tips* double.

F. Fertile flowers forming a Catkin on the same tree.

EMPAL. *Catkin* common: tiled; *Scales* placed by threes; opposite; fixed to the spike-stalk; two flowers in each; heart-shaped; concave; short; slightly notched at the end, with a sharp point in the middle.

BLOSS. None that is perceptible.

POINT. *Seedbud* egg-shaped; very small. *Shafts* two; bristle-shaped; as long as the scales of the cup. *Summits* simple.

S. VESS. None. The seeds lie under each triple scale of the catkin.

SEEDS. Solitary; egg-shaped; bordered.

OES. *In some species the flowers form a cylindrical catkin; in others a roundish cone.*

BIRCH.

BIRCH. Leaves egg-shaped; tapering to a point; serrated White
—Flowers forming a cylindrical catkin. Bark white; smooth; Alba
glossy.

Betula. *Bauh. pin.* 427. *Ray's Syn.* 443. *Gerard.* 1478.

Birch Tree. Birk.

Woods and moist hedges. S. July.

It grows in all kinds of soil, but best in shady places. It bears cropping. It is hurtful to pasturage. The wood is firm, tough and white: Womens shoe-heels, and packing-boxes are made of it. It is planted along with hazle to make charcoal for forges. In the northern parts of Lancashire, they form the slender twigs into besoms for exportation. (*Penn. Tour.*) The bark is extremely useful to the people in the north of Europe; they make hats and drinking cups of it in Kamschatka. The Swedish fishermen make shoes of it. The Norwegians cover their houses with it, and upon this cover, they lay turf three or four inches thick. Torches are made of the bark sliced and twisted together. It abounds with a resinous matter that is highly inflammable. If a hole is bored into the tree when the sap rises in the spring, a sweet liquor distils from it, which properly fermented with the addition of sugar, makes a pleasant wine.—Horses, Cows, Goats and Sheep eat it. Swine refuse it.

It furnishes food for the following insects.

Willow Butterfly. *Papilio Antiopa.*

Brown hair-streak Butterfly. *Papilio Betule.*

Emperor Moth. *Phalena pavonia.*

Large Emerald Moth. *Phalena Papilionaria.*

Great Egger Moth. *Phalena Quercus.*

Chocolate-tip Moth. *Phalena Curcula.*

Spotted Elm Moth. *Phalena Betularia.*

Pebble Moth. *Phalena Ziczac.*

- - - - *Tenthredo lutea.*

Birch Louse. *Aphis Betule.*

- - - - *Coccus Betule.*

Birch Bug. *Cimex Betule.*

Birch Weevil. *Curculio Betule.*

- - - - *Chrysomela Betule.*

BIRCH. Fruit-stalks branched.—Leaves nearly circular; Alder
clammy; serrated. Catkins brown.

Alnus. *Gerard.* 1249 *Ray's Syn.* 442. *vulgaris.* *Park.* 1403. *Alnus*

Alnus rotundifolia glutinosa viridis. *Bauh. pin.* 428.

Common Alder. Owllet.

Alnus vulgaris, sub-conis ligulis membranaceis rubris donata.
Ray's Syn. 442.

1. Scarlet Alder; there are likewise the Black, the hoary-leaved,
the indented or Elm-leaved; the curled leaved; the broad curled
leaved and the white ALDERS.

Wet situations. S. July.

VOL. II.

O

It

It flourishes best in low marshy situations, in which it is frequently planted to make hedges. It will not live in a chalky soil. It is easily propagated by seeds, but not by slips or cuttings. Grass grows well beneath its shade.—The wood is soft and brittle. It endures a long time under water and therefore is used for pipes; and to lay under the foundations of buildings situated upon bogs. Womens shoe heels, ploughmens clogs and various articles of the Turner are made of it.—The bark gives a red colour, and with the addition of copperas a black. It is principally used by fishermen to stain their nets.—In the Highlands of Scotland near Dundonnel, Mr. Pennant says, the boughs cut in the summer, spread over the fields, and left during the winter to rot, are found to answer as a manure. In March the ground is cleared of the undecayed parts, and then ploughed.—The fresh-gathered leaves are covered with a glutinous liquor; and some people strew them upon their floors to destroy fleas; the fleas are said to be entangled in the tenacious liquor like birds are by bird-lime.—The berries dye green.—The whole plant is astringent.—Horses, Cows, Goats and Sheep eat it; Swine refuse it.

The following insects live upon it.

- Puss Moth. *Phalena Fennula.*
- Buff-tip Moth. *Phalena Buccophala.*
- Yellow Tail Moth. *Phalena Chrysorrhea.*
- White spot tussock Moth. *Phalena antiqua.*
- Dagger Moth. *Phalena Pfi.*
- - - - *Tenthredo Lutea.*
- - - - *Clermes Aini.*
- Birch Weevil. *Curculio Betule.*
- Alder Weevil. *Curculio Alni.*
- Two spotted Lady Cow. *Coccinella 2 punctata.*
- - - - *Cbrysonota Aini.*

Order V. Five Chives.

366 DITCHBUR. 1056 Xanthium.

B. Barren flowers compound.

EMPAL; *Cup*, common to many florets; formed of many leaves; tiled with slender scales, as long as the florets; equal.

BLOSS. *Compound*, uniform; tubular; equal; formed into an hemisphere.

Individual, one petal; tubular; funnel-shaped; upright; with five clefts.

CHIVES. *Threads* five; forming a hollow cylinder. *Tips* upright; parallel; not united.

RECEPT. *Common*, next to none; the florets being separated by chaff.

F. Fertile flowers beneath the others on the same plant; two together.

EMPAL. *Fence* containing two flowers; formed of two *Leaves*; opposite; each divided into three sharp lobes; the middle lobe projecting farthest; set round with hooked prickles; surrounding and entirely covering the seedbuds to which they are fixed. *Little Segments* loose.

BLOSS. *None*.

POINT. *Seedbud* oval; rough with hair. *Shafts* two; similar; hair-like. *Summits* simple.

S. VESS. *Berry* dry; oblong egg-shaped; cloven at the end; beset closely with hooked prickles.

SEED. *Nut*; with two cells.

DITCHBUR. Stem without thorns. Leaves heart-shaped; Burdock three fibred.—*Stem generally spotted. Flowers at the base of the Strumarium leaves.*

Xanthium, seu Lappa minor. *Park.* 1222. *Ray's Syn.* 140.

Lappa minor; Xanthium Dioscoridis. *Bauh. pin.* 198.

Bardana minor. *Gerard.* 809.

Lesser Burdock.

On dunghills. A. August—September.

The leaves are bitter and astringent.—A decoction of the whole plant affords a showy yellow colour; but it is better if only the flowers are used. Horses and Goats eat it; Cows, Sheep and Swine refuse it.

367 EVERLASTING. 1060 Amaranthus

B. *Barren flowers on the same plant with the fertile ones.*

EMPAL. *Cup five or three leaves; upright; coloured, permanent; little Leaves spear-shaped; sharp.*

BLOSS. *None. Unless you consider the empalement as such.*

CHIVES. *Threads five or three; hair-like; upright, but standing rather open; as long as the cup. Tips oblong; vane-like.*

F. *Fertile flowers in the same bunch with the others.*

EMPAL. *Cup the same as the other.*

BLOSS. *None.*

POINT. *Seedbud egg-shaped. Shafts three; short; awl-shaped. Summits simple; permanent.*

S.VESS. *Capsule egg-shaped; somewhat compressed; the size of the cup which contains it, and coloured like that. Bills three; cell one; cut round.*

SEED. *Single; globular; compressed; large.*

Blite
Blitum

EVERLASTING. *Flowers in lateral clusters; each cup with three clefts. Leaves egg-shaped, dented. Stem spreading.—Sometimes the leaves are of a silvery white in the middle, and with or without a brown spot.*

Blitum rubrum minus. Bauh. pin. 118. Ray's Syn. 157.

1. *There is a variety that is white.*

Least Blite.

Amongst rubbish. A. August.

Order

Order VIII. Many Chives.

368 ARROWHEAD. 1067 Sagittaria.

B. *Barren flowers many.*EMPAL. *Cup* three leaves; *little Leaves* egg-shaped; concave; permanent.BLOSS. *Petals* three; circular; blunt; flat; expanding; three times as large as the cup.CHIVES. *Threads* many, (generally twenty-four.) awl-shaped; collected into a little head. *Tips* upright; as long as the cup.F. *Fertile flowers few, and standing beneath the others.*EMPAL. *Cup* as above.BLOSS. *Petals* three as above.POINT. *Seedbuds* numerous; compressed; forming a little head; hunched on the outer-side, ending in very short *Shafts*. *Summits* sharp; permanent.S. VESS. None. *Receptacle* globular; and set round with the seeds so as to form a globe.

SEEDS. Numerous; oblong; compressed; encompassed lengthways by a broad membranaceous border, which is hunched on one side, and tapering towards each end.

ARROWHEAD. *Laaves* arrow-shaped; sharp—*On Leaf stalks*.*Blossoms* *subite*.

Common

Sagitta. *Ray's Syn.* 258. *minor latifolia*. *Park.* 1247.*Sagittifolia**Sagitta aquatica minor latifolia*. *Bauh. pin.* 194.*Sagitta aquatica omnium minima*. *Ray's Syn.* 258.

Wet Ditches and Banks of rivers. P. June.

There is always a bulb at the lower part of the root, growing in the solid earth, beneath the mud. This bulb constitutes a considerable part of the food of the Chinese, and upon that account they cultivate it. Horses, Goats and Swine eat it; Cows are not fond of it.

369 MILFOIL. 1066 Myriophyllum.

B. *Barren flowers.*

EMPAL. *Cup* four leaves; oblong; upright; the *outermost* larger and the *innermost* smaller than the rest.

BLOSS. None.

CHIVES. *Threads* eight; hair-like; longer than the cup; limber. *Tips* oblong.

F. *Fertile flowers placed under the others.*

EMPAL. *Cup* as above.

BLOSS. None.

POINT. *Seedbuds* four; oblong. *Shafts* none. *Summits* downy.

S. VESS. None.

SEEDS. Four; oblong.

OBS. *In the second species the chives and pointals are frequently found in the same empalement.*

Spiked
Spicatum

MILFOIL. Barren flowers in interrupted spikes.—*Stems hollow; scored; jointed; branched.* Fruit-bearing stalks without leaves.

Potamogeton foliis pennatis. Ray's Syn. 150.

Millefolium aquaticum pennatum spicatum. Baub. pin. 141. Park. 1257.

Spiked Water Milfoil.

Ponds and slow streams. P. June—July.

Sheep and Goats refuse it.

Whorled
Verticillatum

MILFOIL. All the flowers growing in whorls; frequently the chives and pointals are found in the same flower.—

Myriophyllum aquaticum minus. Gerard. 828.

Pentapterophyllum aquaticum flosculis ad foliorum nodos. Ray's Syn. 316.

Millefolium aquaticum minus. Park. 1257.

Millefolium aquaticum flosculis ad foliorum nodos. Baub. pin. 141.

Verticillated Water Milfoil.

Ponds and slow streams. P. July.

370 HORNWEED. 1065 *Ceratophyllum*.

B. *Barren Flowers.*

EMMAL. *Cup* with many divisions. *Segments* awl-shaped ; equal.

BLOSS. None.

CHIVES. *Threads* twice as many as there are segments in the cup (from sixteen to twenty ;) hardly discernible. *Tips* oblong ; upright ; longer than the cup.

F. *Fertile flowers on the same plant with the others.*

EMMAL. *Cup* as above.

BLOSS. None.

POINT. *Seedbud* egg-shaped ; compressed. *Shaft* none. *Summit* blunt ; oblique.

S. VESS. None.

SEED. *Nut*, egg-shaped ; of one cell ; tapering to a point.

HORNWEED. Leaves twice forked ; in double pairs: Horsetail
Fruit with three thorns—*Leaves in whorls.* Demerium

Hydroceratophyllum folio aspero, quatuor cornibus armato.
Ray's Syn. 135.

1. Leaves smooth with eight horns. *Ray's Syn. 135.*
Horned Pondweed.

Slow streams and wet ditches. P. July.

The uncommon breadth of the summits is the most remarkable peculiarity in this plant ; and whether they float upon the surface of the water, or are sunk beneath it, they are equally calculated to receive the dust from the chives which stand above them.

371 IRONWORT. 1069 Poterium.

B. *Barren flowers forming a spike.*

EMPAL. *Cup* three leaves; little *Leaves* egg-shaped; coloured; shedding.

BLOSS. With four divisions. *Petals* egg-shaped; concave; expanding; united at the base; permanent.

CHIVES. *Threads* many, (from twenty to fifty;) hair-like; very long; limber. *Tips* roundish; double.

F. *Fertile flowers in the same spike, but placed above the others.*

EMPAL. *Cup* as above.

BLOSS. *Petal* one; wheel-shaped. *Tube* short; roundish; closing at the mouth. *Border* with four divisions. *Segments* egg-shaped; flat; reflected; permanent.

POINT. *Seedbuds* two; oblong egg-shaped; within the tube of the blossom. *Shafts* two; hair-like; coloured; limber; as long as the blossom. *Summit* pencil-shaped; coloured.

S. VESS. *Berry* formed of the tube of the blossom, which grows thick; hard; and closes upon the seeds.

SEEDS. TWO.

OBS. *There is one foreign species in which the Berry is fleshy and globular; the seeds three; oblong; cylindrical. But in the British species the Berry is dry and angular, and the seeds four cornered; tapering at each end. There are two feeble pointals in each barren flower in the Burnet IRONWORT.*

Burnet

Sanguisorba

IRONWORT. Without thorns; stem somewhat angular.

—*Leaves winged, serrated. Spikes of flowers purple.*

Sanguisorba minor. Ray's Syn. 203.

Pimpinella sanguisorba minor hirsuta. Raub. pin. 160.

Pimpinella vulgaris minor. Park. 582.

Pimpinella sylvestris. Gerard. 1045.

Burnet.

High chalky pastures and moist meadows. P. May—August.

The young leaves are sometimes used in fallads, and in cool tankards.

372 BEECH. 1072 Fagus.

B. Barren flowers fixed to a common receptacle, somewhat like a catkin.

EMPAL. Cup one leaf; bell-shaped; with five clefts.

BLOSS. None.

CHIVES. Threads many, (about twelve) as long as the cup; bristle-shaped. Tips oblong.

F. Fertile flowers in a bud, on the same tree.

EMPAL. Cup one leaf; with four teeth; upright and sharp.

BLOSS. None.

POINT. Seedbud inclosed by the cup. Shafts three; awl-shaped. Summits simple; reflected.

S. VESS. Capsule roundish; (formed of the cup;) large; beset with soft thorns; with one cell, and four valves.

SEEDS. Nuts two; egg-shaped; three cornered: with three valves; tapering.

Obs. The barren flowers sometimes form a cylinder, at others a globe.

BEECH. Leaves spear-shaped; tapering to a point; ferrated; Chestnut naked underneath.—

Castanea

Castanea. Gerard. 1442. Ray's Syn. 442. vulgaris. Park. 1400.

Castanea sylvestris. Paub. pin. 419.

Chestnut Tree.

Woods and Hedges, in Kent. S. May.

1. The leaves are something striped with yellow,

Nothing will thrive under its shade—The wood is applicable to the same uses that Oak is—If the bark is not taken off, it makes poles for espaliers, dead fences and hop yards, and pipes to convey water under ground, which will last longer than Elm or Oak—Some of the oldest buildings in London are said to be constructed with this wood—At Tortworth in Gloucestershire there is a tree fifty-two feet round. It is proved to have stood there ever since the year 1150, and was then so remarkable as to be called the great Chestnut of Tortworth. It fixes the boundary of the manor, and is probably near 1000 years old. See Gent. Mag. 1766 p. 321, where there is a drawing of it. Mr. Collinson, the author of this account, makes no doubt of the Chestnut being a native of England, and assigns the great profit that arises from them when cut for hop-poles, as the reason why it is so rare to see large trees in the woods. The nuts are used for whitening linen cloth, and for making starch.

BEECH.

Common
Sylvatica

BEECH. Leaves egg-shaped; indistinctly serrated.—*Bark smooth; white. Catkin globular.*

Fagus. Gerard. 1444. Baub. pin. 419. Park. 1403. Ray's Syn 438.

Woods and hedges. S. May.

1. The leaves are sometimes variegated with white or yellow stripes.

The tree is large and beautiful, but no verdure will flourish under its shade. It loves a fertile Soil. Whilst young it is apt to suffer from exposure. It is difficult to transplant. It retains its old leaves through the winter. It bears lopping well, and may be trained to form very lofty hedges—the wood is brittle; soon decays in the air, but endures under water. It is formed into tool handles, planes, mallets, chairs and bedsteads. Split into thin layers it is used to make scabbards for swords. It is excellent fuel, and when burnt it affords a large quantity of Pot-ash—The leaves gathered in Autumn before they are much injured by the frosts, make infinitely better mattresses than straw or chaff, and endure for seven or eight years—The nuts, or masts as they are called, when eaten occasion giddiness and head ache; but when well dried and powdered they make wholesome bread. They are sometimes roasted and substituted for coffee. They fatten Swine. The poor people in Silesia use the expressed oil instead of butter.—

Sheep and Goats eat the leaves.—

The following insects feed upon both Species.

December Moth. *Phalæna Populi.*

Nut-tree Tussock Moth. *Phalæna Coryli.*

Yellow Tussock Moth. *Phalæna Pudibunda.*

Beech Weevil. *Curculio Fagi.*

Cockchaffer Beetle. *Scarabeus Melolontha.*

Beech Louse. *Aphis Fagi.*

373 O A K. 1070 Quercus.

B. *Barren flowers forming a loose catkin.*

EMPAL. *Cup* one leaf; with four or five clefts; *Segments* sharp; often cloven.

BLOSS. None.

CHIVES. *Threads* many, (five, eight or ten;) very short. *Tips* large; double.

F. *Fertile Flowers seated in a bud on the same tree.*

EMPAL. *Cup* one leaf; like leather; hemispherical; rough; very entire; hardly discernible whilst the flower continues.

BLOSS. None.

POINT. *Seedbud* egg-shaped; very small. *Shafts* from two to five; longer than the cup. *Summit* simple; permanent.

S. VESS. None.

SEED. *Nut* oval; formed of a leather-like coat of one valve, which appears as if rasped at the base; fixed to a short cup; cylindrical; smooth.

Obs. *The number of segments in the cup generally corresponds with the number of chives.*

OAK. Leaves deciduous; oblong; broadest towards the end; English with rather sharp indentations but blunt angles. — *Blossoms* pale green. *The Cup* is composed of about twenty little, spear-shaped; membranaceous; coloured leaves. Robur

Quercus vulgaris. Gerard. 1339.

Quercus latifolia. Park. 1385. Ray's Syn. 440.

Quercus cum longo pediculo. Baub. pin. 420.

1. There is one variety with shorter fruit stalks. Baub. pin. 419

2. And another with striped leaves.

Common Oak.

Woods and hedges. S. April.

It loves hilly better than boggy ground, and thrives best, while young, in large plantations. Its roots descend deep into the earth, and therefore will not bear to be transplanted. Much lopping destroys it. Grass will hardly grow beneath it—The wood is hard; tough; tolerably flexible; not easily splintering; and therefore is preferred before all other timber for building ships of war. It is well adapted to almost every purpose of the carpenter; but an attempt to enumerate all the uses of this well known wood, would be equally superfluous and difficult.—Oak saw-dust is the principal indigenous vegetable used in dying fustian. All the varieties of drabs and different shades of brown are made with Oak saw-dust, variously managed and compounded

pounded—The balls, or Oak apples are likewise used in dying as a substitute for galls: the black got from them by the addition of copperas is more beautiful than that from galls, but not so durable—The bark is universally used to tan leather. An infusion of it with a small quantity of Copperas is used by the common people to dye woollen of a purplish blue: The colour, tho' not very bright is durable—The balis, or galls upon the leaves are occasioned by a small insect with four wings, called *Cynips quercus folii*, which deposits an egg in the substance of the leaf, by making a small perforation on the under surface. The Ball presently begins to grow, and the egg in the center of it changes to a worm; the worm again changes to a nymph, and the nymph to the flying insect with four wings. —

Horses, Cows, Sheep and Goats eat the leaves; Swine and Deer fatten on the acorns.

The following insects feed upon it.

Emperor of the Woods. *Papilio Iris*.
 Purple Hair-streak Butterfly. *Papilio Quercus*.
 Puts Moth. *Phalena Viola*.
 Great Egger Moth. *Phalena Quercus*.
 Black Arches Moth. *Phalena Monacha*.
 Gipsy Moth. *Phalena Dispar*.
 Yellow Tail Moth. *Phalena Chrysorrhea*.
 Yellow Tussock Moth. *Phalena Pudibunda*.
 Scollop winged Oak Moth. *Phalena Oo*.
 Spotted Bull Moth. *Phalena Lubricipeda*.
 Yellow July Oak Moth. *Phalena Lardra*.
 Willow Red-under wing Moth. *Phalena Pasla*.
 Dagger Moth. *Phalena Pfi*.
 Bull Tip Moth. *Phalena Buccphala*.
 Wild Rose Moth. *Phalena Laccinaria*.
 Small Oak Moth. *Phalena Viridana*.
 Green Silver Lined Moth. *Phalena Prasinana*.
 Buff Argus Moth. *Phalena Anataria*,
 Red arches Moth. Broad bar Moth. Oak bar Moth,
 Scollop broad wing bar Moth. Triple bar Moth. Dun bar
 Moth. Oak beauty Moth. Pale Oak beauty Moth. Mai-
 den blush Moth. Clouded border Moth. Laced border
 Moth. Small brindle beauty Moth. Brindled Moth. Hornsey
 carpet Moth. Marvel de jour Moth. July high flyer Moth.
 Gold fringe Moth. Pea green Moth. Heart Moth. Half
 mourner Moth. Japan long horn Moth. Golden long horn
 Moth. Maid of honour Moth. Green golden horn Moth.
 Large Japan Moth. Brussels lace Moth. Triple lines Moth.
 November Moth. Orange band Moth. Orange Moth. O
 Moth. Orange companion Moth. Owl Moth. Oc-
 tober Moth. Panther Moth. Dark prominent Moth. Red
 neck Moth. Red shell Moth. Scolloped shell Moth. Snout
 Moth.

Moth. Grey sparkling Moth. Orange sparkling Moth.
Clouded straw Moth. Spider Moth. Brown tail Moth. Grey
tussock Moth. Tissue Moth. Blood veined Moth. Waved
umber Moth. Mottled UMBER Moth. Copper underwing
Moth. Orange upper wing Moth. Spring uther Moth. March
close wing Moth. Crimson under wing Moth, *Phalena Nupta*.

- - - - *Phalena Vindata*.
- - - - *Cynips Quercus Baccæ*.
- - - - *Cynips Quercus Folii*.
- - - - *Cynips Quercus Petioli*.
- - - - *Cynips Quercus Gemmæ*.
- - - - *Cbermes Quercus*.

Oak Louse. *Aphis Quercus*.

Oak Weevil. *Curculio Quercus*.

374 H A Z L E . 1074 Corylus.

B. *Barren flowers forming a long catkin,*

EMPAL. *Catkin common tiled on every side ; cylindrical ;
consisting of Scales, each inclosing a single flower ;
narrower at the base, broader and more blunt at
at the end ; bent inwards with three clefts. The
Middle Segment as long, but twice as broad as the
others, and covering them.*

BLOSS. None.

CHIVES. *Threads eight ; very short ; fixed to the inner
side of the scale of the cup. Tips egg-shaped ; ob-
long ; shorter than the cup ; upright.*

F. *Fertile flowers at a distance from the others, on the same
plant ; sitting ; inclosed in the bud.*

EMPAL. *Cup two leaves ; like leather : jagged at the
edge ; upright ; as long as the fruit ; so small as to be
hardly discernable during the time of flowering.*

BLOSS. None.

POINT. *Seedbud roundish ; very small. Shafts two ; bristle-
shaped ; much longer than the cup ; coloured. Sum-
mits simple.*

S. VESS. None.

SEED. *Nut somewhat egg shaped ; appearing as if rasped
at the base ; point rather flatted ; and a little taper-
ing toward the end.*

Obs. *This genus is nearly allied to the HORNEEAM.*

Nut
Avellana

HAZLE. Props egg-shaped; blunt.—*Leaves oval; pointed; serrated; wrinkled. Catkins green; afterwards brown.*

Corylus sylvestris. Gerard. 1479. Baub. pin. 418. Ray's Syn. 439.

Corylus, five *Nux avellana sylvestris.* Park. 1416.

Hazel-nut Tree.

Woods and hedges. S. March.

1. There are some varieties in the form of the fruit.

It is frequently planted in hedges, and in coppices to make charcoal for forges. The owners cut them down in equal portions in the rotation of sixteen years, and raise regular revenues out of them; often more than the rent of the land, for freeholders of fifteen or twenty-five pounds per annum are known to make constantly sixty-pounds a year from their woods. *Pennants Tour.* 1772. p. 29. The wood is used for fishing rods, walking sticks, crates, hoops for barrels, &c. the shoots for springles to fasten down thatch. The roots are preferred where beautiful wood is required for inlaying or staining. It is a practice in Italy to put the chips of hazle into turbid wine to clear it, which it does in twenty-four hours: and in countries where yeast is scarce, they take the twigs of hazle, and twist them together so as to be full of chinks; these they steep in ale during its fermentation; then hang them up to dry, and when they brew again they put them into the wort instead of yeast—Painters and engravers prepare coals for delineating their designs thus. They take pieces of Hazle about as thick as a man's arm and four or five inches long. dry and then cleave them into pieces about as thick as ones finger. These they put into a large pot full of sand, and then cover the top of pot with clay. This is exposed in a potter's oven, or any other sufficient degree of heat, and when cooled again, the sticks are found converted into charcoal which draws freely and easily rubs out again—The nuts are agreeable to most people. Squirrels live chiefly upon them. An expressed oil is obtained from them for the use of painters—Goats and Horses eat the leaves; Sheep and Swine refuse them. The following insects are found upon the hazle: Brindle Moth. Spider Moth. December Moth, *Phalena Populi.* Emperor Moth, *Phalena Parvonia.* Nut-tree tussock Moth, *Phalena Coryli.* Dagger Moth, *Phalena Psi.* Orange tussock Moth, *Phalena Gonostigma.* *Atelabus Coryli* and *Curculio Nucum.*

375 HORNBEAM. 1073 Carpinus.

B. *Barren flowers formed into a cylindrical catkin.*

EMPAL. *Common Catkin*, loosely tiled on every side; consisting of *Scales*, with a single flower in each; egg-shaped; concave; sharp; fringed.

BLOSS. None.

CHIVES. *Threads* generally ten; very small. *Tips* double; compressed; woolly at the end; with two valves.

F. *Fertile flowers forming an oblong catkin on the same tree.*

EMPAL. *Common Catkin*, loosely tiled; consisting of *Scales*, inclosing a single flower; spear-shaped; woolly; reflected at the end.

BLOSS. Shaped like the cup; of one leaf, with six clefts. Two of the *Segments* larger than the others.

POINT. *Seedbuds* two; very short; each furnished with two *Shafis*; hair-like; coloured; long. *Summits* simple.

S. VESS. None. The *Catkin* growing very large contains the seed at the base of of the scales.

SEED. Nut egg-shaped; angular.

Obs. *Linnaeus in one place says there are ten, and in another twenty chives. I have not had an opportunity to determine which of these is true. Probably the number of chives varies.*

HORNBEAM. Scales of the cones flat.—*Park smooth*; Smooth *white*. Leaves *oval*; *pointed*; *sharply serrated*. Betulus

Ostrya ulmo similis, fructu in umbilicis foliaceis. *Baub. pin.* 427. *Ray's Syn.* 451.

Ostrys, five *Ostrya*. *Park.* 1406.

Betulus five *Carpinus*. *Gerard.* 1479.

1. There is a variety with striped yellow leaves.

Horn-beam Tree. Hard-beam Tree. Horse or Horn-beech Tree.

In woods. S. May.

This tree loves a poor stiff soil, on the sides of hills. It is easily transplanted, and bears topping. Cattle eat the leaves, but pasturage will not flourish in its shade.—The wood burns like a candle; it is very white, very tough, harder than hawthorn, and capable of supporting a great weight. It is useful in turning, and for many implements of husbandry. It makes cogs for mill wheels even superior to yew.—The inner bark is much used in Scandinavia to dye yellow.

The *Phalena Erumata* and *Rositalis* feed upon it.

Order

Order IX. Threads United.

376 F I R. 1077 Pinus.

B. *Barren flowers in bunches.*

EMPAL. None, but the gaping scales of the buds.

BLOSS. None.

CHIVES. *Threads* many; united below into an upright pillar, divided at the top. *Tips* upright.F. *Fertile Flowers on the same tree.*EMPAL. *Common Cone*, somewhat egg-shaped; composed of *Scales*, with two flowers in each; oblong; tiled; permanent, inflexible.

BLOSS. None.

POINT. *Seedbud* very small. *Shaft* awl-shaped. *Summit* simple.S. VESS. None. The *Scales* of the cone which before flood open closing upon the seed.SEED. *Nut*, enlarged by a membranaceous wing, larger than the seed, but smaller than the scales of the cone; oblong; on one side straight but hunched on the other.Scotch
SylvestrisFIR. Leaves in pairs, in their first growth solitary; smooth—*Cones* pendant; whitish.Pinus sylvestris. *Bark. pin.* 491.

Pinus sylvestris, foliis brevibus glaucis, conis parvis alventibus.

Ray's Syn. 442.

Mountains in Scotland. S. May.

It flourishes best in a poor sandy soil. In a grove, the trunk becomes tall and naked; in sunny open places, branched. On rocks or bogs, it seldom attains a large size. In black soil it becomes diseased, and in chalky land it dies. Sometimes it will thrive near running, but never near stagnant waters. None but the terminating buds send forth branches, therefore it will not bear the least clipping. The roots spread very near to the surface of the earth, all but the central root which grows perpendicularly downwards; and if this is broken off, or interrupted in its passage by rocks, the stem ceases to shoot upwards and the tree for ever remains a dwarf. Upon this account it is apt to suffer by transplanting—This tree furnishes us with the best red or yellow deal. It is smooth, light, and easily cloven. The bark will tan leather—The inhabitants of the North of Europe make bread from this tree in the following manner. They

choote

choofe a tree whose trunk is even, for thefe contain the leaft refin, and ftrip off the bark in the fpring when it feparates moft readily, This they firft dry gently in the fhade; then in a greater heat; and reduce it to powder. With this powder they mix a fmall quantity of corn-meal, and with water knead it into bread. This they eat, not only in years of fcarcity, but at other times, from an apprehenfion that long difufe might render it difagreeable to them. Their children are very fond of the frefh bark in the fpring time, either fhaved with a knife or grated with a rafp—the young fhoots diftilled afford a flagrant effential oil.—Sheep and Goats are not fond it; Horfes refuse it.

It affords nourifhment to the following infefts.

Pine Lappit Moth. *Phalena Pini*.

Yellow July Oak Moth. *Phalena Quadra*.

Fir Weevil. *Curculio Pini*.

Fir Bug. *Cimex Abietis*.

FIR. Leaves folitary; notched at the end.—*Grey on the under Yew-leaved*
surface. Cones upright. Picea

Abies. Gerard. 1363. Park. 1539. Ray's Syn. 441.

Abies conis furfum fpectantibus, feu mas. Bauh. pin. 505.

Mountains in Scotland.

The thirty-fix fine trees of this fpecies, mentioned by Mr. Ray as growing at Wareton near Newport in Shropfhire, are now no more. Pitch, tar, and turpentine may be got from all the fpecies of Fir.

FIR. Leaves folitary; awl-shaped, fharp pointed; fmoother; Pitch pointing in two oppofite direftions—*Leaves compressed; fhining on* *Abies*
the upper furface. Bark reddifh brown. Cones long; pendant.

Abies mas Theophrasti. Ray's Syn. 441.

Picea. Park. 1538. major. Gerard. 1354.

Picea major prima, five Abies rubra. Bauh. pin. 493.

Common Fir. Pitch Tree.

Mountains in Scotland.

It will grow in various fituations; either in thick woods or ffunny expofures; on barren commons or in rich paftures; but in very dry or chalky foils it dies. It is difficult to transplant, for its roots fspread very wide near the furface of the earth: but if it furvives the firft removal, it may afterwards be transplanted at pleafure; for the roots that have been cut off, fend out numbers of little fibres, fufficient to fupply it with nourifhment; but it muft be an invariable rule always to plant it at the fame depth it flood at before, and to let the fide which formerly faced the fouth, be placed again in the fame direftion—The wood is very light; white; rots in the air and crackles in the fire. It

CHIVES and POINTALS Separate.

is used for making musical instruments, packing boxes, &c. the Laplanders make ropes of the roots and employ them for fastening together the thin planks of their portable canoes—The inhabitants of Canada prepare a pleasant and wholesome liquor from the leaves.

Goats eat it; Sheep refuse it.

The Fir Bug, *Cimex Abietis*, and the *Cbermes Abietis* live upon it.

Order X. Tips United.

377 B R Y O N Y. 1093 Bryonia.

B. Barren Flowers.

EMPAL. Cup one leaf; bell-shaped; with five awl-shaped teeth.

BLOSS. With five divisions; bell-shaped; fixed to the cup; Segments egg-shaped.

CHIVES. Threads three; very short. Tips five: two upon each thread, and only one upon the third thread.

F. Fertile Flowers upon the same plant.

EMPAL. Cup as above; superiour; permanent.

BLOSS. As above.

POINT. Seedbud beneath. Shaft with three clefts; as long as the blossom when open. Summits notched at the end; open.

S. VESS. Berry oval; smooth.

SEEDS. Several; fixed to the outer coat of the berry; somewhat egg-shaped.

White
Alba

BRYONY. Leaves hand-shaped; rough with callous points on both surfaces—The flowers bearing only chives, and those bearing only pointals are sometimes, though very rarely, found on distinct plants. Root very large. Berry red. Blossoms pale green.

Obs. In many parts of England the barren and fertile flowers are always on distinct plants.

Bryonia alba. Gerard. 869. Ray's Syn. 261, vulgaris. Park. 178.

Bryonia aspera five alba Baccis rubris. Bauh. pin. 297.

Wild Vine.

Hedges and roughs. P. May.

1. There is a variety with black berries.

The root is purgative and acrid; a dram of it in substance, or half an ounce of it infused in wine is a full dose. A cold infusion

tion of the root in water is used externally in sciatic pains. A cataplasm of it is a most powerful discutient—A decoction made with one pound of the fresh root is the best purge for horned cattle—The active virtues of this plant seem to claim more attention than is now bestowed upon it—Some people have a method of forming the roots into human figures, and selling them for mandrakes.

Goats eat it; Horses, Cows, Sheep and Swine refuse it.

C L A S S XXII.

IN the preceding Class the Flowers with only Chives, and the Flowers with only Pointals were found upon the *same* plant ; but in this they are upon *different* plants.

All the plants therefore of this Class are necessarily either BARREN or FERTILE ; the Flowers of the former containing *Chives* only ; those of the latter, only *Pointals*.

Both sorts are propagated from seeds, which are the product of the fertile plants.

B. signifies the barren, and

F. the fertile flowers.

C L A S S XXII.

Chives and Pointals distinct.

Order II. Two Chives.

- 378 WILLOW. - B. *Catkin* scaly. *Bloff.* none. *Chives* two ; rarely more.
 F. *Catkin* scaly. *Bloff.* none. *Summits* two. *Caps.* two valves. *Seeds* downy.

Order III. Three Chives.

- 379 CROWBERRY. B. *Cup* with three divisions. *Bloff.* three petals.
 F. *Cup* with three divisions. *Bloff.* three petals. *Shafts* nine. *Berry* nine seeds.

† *Small Sedge.* † *White Bryony.* † *Marsh Valerian.*

Order IV. Four Chives.

- 380 SALLOWTHORN. B. *Cup* with two divisions. *Bloff.* none.
 F. *Cup* with two clefts. *Bloff.* none. *Point.* one. *Berry* one seed, with a lopped seed-coat.

P 3

381 MISLE-

CHIVES and POINTALS Distinct.

- 381 MISLETOE. B. *Cup* with four divisions. *Bloss.* none.
 F. *Cup* four leaves. *Bloss.* none. *Summit* blunt. *Berry* one seed: beneath.
- 382 GALE. - B. *Catkin* scaly. *Bloss.* none.
 F. *Catkin* scaly. *Bloss.* none. *Shafes* two. *Berry* one seed.
- † *Purging Buckthorn.* † *Common Nettle.* † *Tree Holly.*

Order V. Five Chives.

- 383 HOP. - - B. *Cup* five leaves. *Bloss.* none.
 F. *Cup* one leaf. *Bloss.* none. *Shafes* two. *Seeds* winged by the cup.
- † *Sweet Willow.*

Order VI. Six Chives.

- 384 LADYSEAL. B. *Cup* six leaves. *Bloss.* none.
 F. *Cup* six leaves. *Bloss.* none. *Shafes* with three clefts. *Berry* with three cells; beneath.
- † *Sorrel Dock.* † *Little Dock.*

Order VII. Eight Chives.

- 385 POPLAR. - - B. *Catkin* ragged. *Bloss.* none. *Honey-cup* egg-shaped. *Chives* from eight to sixteen.
 F. *Catkin* ragged. *Bloss.* none. *Summit* with four clefts. *Capsule* with two valves. *Seeds* feathered.
- 386 ROSEWORT. B. *Cup* with four divisions. *Bloss.* four petals.
 F. *Cup* with four divisions. *Bloss.* none. *Pointals* four. *Capsules* four. *Seeds* many.

Order

Order VIII. Nine Chives.

- 387 MERCURY. - B. *Cup* three leaves. *Bloss.* none.
Chives from nine to twelve.
 F. *Cup* three leaves. *Bloss.* none.
Shafts two. *Capsule* two berries.
- 388 FROGBIT. - B. *Cup* three leaves. *Bloss.* three
 petals.
 F. *Cup* three leaves. *Bloss.* three
 petals. *Shafts* six. *Capsule* beneath;
 with six cells.

Order IX. Ten Chives.

† *Campion Cuckow-flower.* † *Catch-fly Campion.*

Order XI. Twenty Chives.

† *Cloudberry Bramble.*

Order XII. Many Chives.

† *Mercury.*

Order XIII. Threads United.

- 389 JUNIPER. - - B. *Catkin.* *Bloss.* none. *Chives* three.
 F. *Cup* with three divisions. *Bloss.*
 three petals. *Shafts* three. *Berry*
 beneath; with three seeds, and
 three tubercles formed by the
 cup.
- 390 YEW. - - B. *Cup* with four leaves. *Bloss.* none.
Tips with eight clefts.
 F. *Cup* four leaves. *Bloss.* none.
Summit one. *Berry* one seed; not
 covered at the end with the
 pulp of the berry.

Order XIV. 'Tips United.

- 391 PETTICORLE. - B. *Cup* six leaves. *Bloss.* none.
Chives five.
 F. *Cup* six leaves. *Bloss.* none.
Pointal one. *Berry* with three
 cells and two seeds.

† *Mountain Cats-foot.* † *White Bryony.*

B Barren Flowers.

EMPAL. *Common Catkin*. oblong; tiled on every side; inclosed by a fence formed of a bud which is composed of

Scales, inclosing a single flower; oblong; flat; expanding.

BLOSS. *Petals* none.

Honey-cup a cylindrical gland; very small; lopped; containing honey; placed in the center of the flower.

CHIVES. *Threads* two; straight; thread-shaped; longer than the cup. *Tips* double; with four cells.

F Fertile Flowers.

EMPAL. *Catkin* as above.

Scales as above.

BLOSS. *None*.

POINT. *Seedbud* egg-shaped; tapering into a *Shaft* hardly distinct from the seedbud but rather longer than the scale of the empalement. *Summits* two; cloven; upright.

S. VESS. *Capsule* betwixt egg and awl-shaped; with one cell, and two valves. The *Valves* rolling back.

SEEDS. Numerous; egg-shaped; very small; crowned with a simple hairy *Feather*.

Obs. In some species there are three or five chives; unequal in length. In the first species the chives and pointals are inclosed within the same empalement—There are frequently large excrescences upon the branches, leaves, and leaf-stalks of Willows, which are the habitations of different species of *Cynipes*—Whoever desires to shade a walk with Willows, should set those which bear only chives in the catkins, or else they will soon multiply so as to form a thicket instead of a walk. The same observation holds good of the Poplar—The flowers of all the species are delightful to Bees.

* *Leaves smooth; serrated.*

Shining

Hermaphroditica

WILLOW. Leaves serrated, smooth. Chives two; in the same empalement with the pointal—Generally six leaves grow out of each bud. Catkins woolly. Branches palisored; veins of the leaves hollow. The whole plant is covered frequently with little red grains, but so small that they are hardly visible to the naked eye.

Salix latifolia, folio splendente. Ray's Syn. 45^r.

Wet hedge rows. S. March.

WILLOW.

WILLOW. Leaves serrated; smooth. Barren flowers with Sweet
 five chives—*Leaves yellowish green; the teeth at the edges pour out* Pentandra
a yellow gum, so that put fresh into a book and compressed, there
remains as many yellow dots on the paper as there are teeth in the leaf.
 Catkins very yellow. It grows about five or six feet high and hath
 purplish or yellowish branches. The Buds consist of two opposite
 valves. The same buds send out both catkins and leaves.

Salix folio Laureo, seu lato glabro odorato. Ray's Syn. 449.

Bay-leaved Willow.

On hills. S. April.

The wood crackles greatly in the fire—The branches are cut
 to make springles—The dried leaves give out a yellow colour—
 Sheep and Goats eat it.

WILLOW. Leaves serrated; egg-shaped; sharp; smooth; Yellow
 gristly at the edges; leaf-stalks dotted with little callous points Vitellina
 —*Perhaps if this was neither cultivated nor cut, it might degenerate*
into the White Willow.

Salix fativa lutea, folio cœnato. Baub. pin. 473.

Cultivated in plantations. S. April—May.

The shoots are used by crate and basket makers.

WILLOW. Leaves serrated; smooth; spear-shaped; on Almondleave.
 leaf-stalks. Props in shape of an irregular square—*Branches first* Amygdalina
green; afterwards deep purple; brittle.

Salix folio auriculato splendente flexilis. Ray's Syn. 448.

Salix folio Amygdalino utrinque virente aurito. Baub. pin. 473.

Salix viminalis nigra. Park. 1431.

Banks of rivers. S. May.

Horses and Goats eat it.

WILLOW. Leaves serrated; smooth; betwixt egg and Crack
 spear shaped; leaf-stalks toothed and glandular—*The branches* Fragilis
when struck with the finger break off at the joint of the last years shoot.

Salix folio longo latoque splendente fragilis. Ray's Syn. 448.

Salix fragilis. Baub. pin. 474. Park. 1431.

Wet marshy places. S. May.

It will thrive in most kinds of soil if they are sufficiently moist.
 It is a quick grower, and bears cropping. The white tattin
 moth sometimes eats all its leaves.

1. *Salix folio Amygdalino utrinque aurito corticem abjiciens.* Ray's Syn. 448. Leaves very much resembling those of the *almond-leaved*, but longer and narrower, and furnished at the base with a kind of appendages, besides the props which grow at the base of the leaf-stalks. These appendages one should imagine might form a specific distinction, but HUPSON notwithstanding arranges it only as a variety of the *Crack Willow*, though Ray it is evident considered it as a distinct species, though most nearly allied to the *almond-leaved*. Its casting its bark forms another characteristic.

Purple
Purpurea

WILLOW. Leaves serrated; smooth; spear-shaped. The lower leaves standing opposite—*Branches often as red as coral; extremely tough. Each bud produces three leaves. The flowering buds beneath the ends of the branches. Empalements hairy and brown.*

Salix folio longo sub-luteo non auriculata, viminibus rubris. Ray's Syn. 450.

Banks of rivers. P. May.

Baskets, cradles, and all sorts of twig-work, are made of the long, slender and flexible shoots of this plant—The inner bark is of a full yellow colour.

Rose
Helix

WILLOW. Leaves serrated; smooth; betwixt strap and spear-shaped; the upper leaves opposite, but oblique—*Branches angular. Leaves when full grown bluish green on the under surface. Bark yellowish. Twigs purple; not cylindrical. Catkin compact; downy; with black scales.*

Wet marshy places. S. May.

Herbaceous
Herbacea

WILLOW. Leaves serrated; smooth; round—*This is the smallest of all trees. The branches hardly a fingers length, and seldom more than three leaves upon each branch. Fruit-stalks arise from the same buds with the leaves. Pointals smooth. Flowers yellow, or purplish.*

Salix alpina, alni retundo folio repens. Ray's Syn. 448.

Salix saxatilis minima. Boub. pin. 47.

On high mountains. P. June.

* * Leaves

* * Leaves smooth ; very entire.

WILLOW. Leaves very entire ; smooth ; egg-shaped ; blunt Network—Green and wrinkled on the upper, but bluish and with a network of Reticulate veins on the under surface. The veins at first red, afterwards green. The flowers and the leaves spring out of the same bud. Somewhat larger than the preceding species. Catkins oblong. Empalements blunt ; concave ; hairy ; flesh-coloured. Chives two ; longer than the empalement ; flesh-coloured. Seedbuds hairy.

Salix pumila folio rotundo. Ray's Syn. 449.

Round-leaved Willow.

On mountains. P. June.

WILLOW. Leaves entire ; smooth ; betwixt strap and spear- Red shaped ; sharp—(Hudson 364). Buds reddish. Catkins red at Rubra first, but afterwards of a greenish yellow colour. Leaves like those of the *Oster Willow*, but smooth on both sides.

In marshes. S. April—May.

* * * Leaves very entire, woolly.

WILLOW. Leaves very entire ; woolly on both sides ; in- Round-leaved versely egg-shaped ; furnished with appendages—*This is a slender Aurita* flexible tree, and sometimes rises to a considerable height.

Salix folio rotundo minore. Ray's Syn. 450.

1. Variety with the leaves downy on the under surface, and seldom rising to above a foot high.

Salix caprea pumila folio subrotundo, subtus incano. Ray's Syn. 450.

Woods and hedges. S. May.

The shoots are slender and tolerably flexible.

WILLOW. Leaves very entire ; egg-shaped ; sharp ; a little Sand woolly above ; downy beneath—*Arenaria*

Salix pumila, foliis utrinque candicantibus, et lanuginosis. Ray's Syn. 447. Tab. 19. fig. 3.

Sandy pastures. P. June.

WILLOW.

Creeping
Repens

WILLOW. Leaves very entire; spear-shaped; somewhat hairy on each surface. Stem creeping—*As thick as a man's finger.* Branches in rod-shaped bundles; drooping. Little branches with a few soft white hairs. Catkins lateral. Fertile capsules reddish. But little larger than the Herbaceous Willow.

Salix pumila angustifolia inferne lanuginosa. Ray's Syn. 447.

Salix pumila brevi angustoque folio incano. Baub. pin. 474.

Salix humilis angustifolia repens. Park. 1434.

1. With leaves more circular, and greyish on the under surface. Baub. pin. 474. Ray's Syn. 448.

On turfy bogs. P. May.

The leaves are intensely bitter; but Horses eat them.

Brown
Fusca

WILLOW. Leaves very entire; egg-shaped; woolly on the under surface: shining—*This is a small creeping shrub. The upper surface of the leaves and the catkins generally blackish.* Bark brown.

Salix pumila angustifolia prona parte cinerea. Ray's Syn. 447.

Salix pumila linitolia incana. Baub. pin. 474.

Salix pumila angustifolia recta. Park. 1434.

Chamaeitea sive salix pumila. Gerard. 1391.

On moist heaths. P. May—June.

Rosemary
Rosmarinifolia

WILLOW. Leaves very entire; betwixt spear and strap-shaped; stiff and straight; sitting; downy on the under surface—*The under surface of the leaves silky and shining.* Props none.

Salix pumila Ramni secundi Clusii folio. Ray's Syn. 447.

Salix oblongo incano acuto folio. Baub. pin. 159.

Rosemary-leaved Willow.

On boggy mountains. P. May.

* * * * Leaves somewhat serrated; woolly.

Sallow
Caprea

WILLOW. Leaves egg-shaped; wrinkled; downy on the under surface; waved at the edge, with little teeth towards the end—*The lower buds send forth leaves; the upper buds catkins without leaves.* Bark rough; grey.

Salix caprea rotundifolia. Gerard. 1319.

Salix latifolia rotunda. Baub. pin. 474. Park. 1432. Ray's Syn. 419.

1. Leaves with a sharpish point at the end. Baub. pin. 474.

Common Sallow. Broad-leaved Willow.

Woods and hedges. P. April—May.

This requires a dryer soil than any of the other species, for it will thrive upon the driest hills. It may be topped every second or third year—The wood is smooth, soft and flexible. It is converted into charcoal for making gunpowder and drawing pencils—The Laplanders make a sort of leather of the bark, which

which they manufacture into gloves. They give a decoction of the leaves for the heart burn—The flowers are particularly grateful to Bees, and the leaves are eaten by Horses, Cows, Goats and Sheep. The purple Emperor Butterfly, *Papilio Iris*. The high flyer Moth; the scarce Silver-line-Moth, and the Copper Under-wing Moth feed upon it.

WILLOW. Leaves almost entire; betwixt spear and strap-Ofier shaped; very long; sharp; silky on the under surface. Branches *Viminalis* long and slender—Some buds produce only leaves; others only catkins.

Salix folio longissimo. Ray's Syn. 450.

Salix folio longissimo angustissimo utrinque albido. Baub. pin. 474.

Common Ofier.

In plantations, and near rivulets. P. April.

The branches are much used for making hoops and crates. It is often planted to prevent the banks of rivers from being washed away by the force of the current.—Horses, Cows, Sheep and Goats eat it.

WILLOW. Leaves spear-shaped; tapering to a point; ser- White rated; downy on both surfaces; with little glands at the edges Alba towards the base—*Bark smooth and whitish.*

Salix. Gerard. 1389. Ray's Syn. 447.

Salix arborea angustifolia, alba vulgaris. Park. 1430.

Salix vulgaris alba arborescens. Baub. pin. 473.

Common Willow.

Woods and hedges. P. April.

It loves a moist and open situation; grows quick, and bears topping—The Reverend Mr. Stone, in the *Philos. Trans. Vol. 53. p. 195.* gives us an account of the great efficacy of the bark of this tree in curing intermitting Fevers. He gathers the bark in summer, when it is full of sap; dries it by a gentle heat, and gives a dram of it powdered every four hours betwixt the fits. In a few obstinate cases he mixed it with one fifth part of Peruvian bark. It is remarkable that intermittents are most prevalent in wet countries; and this tree grows naturally in such situations. Whilst the Peruvian bark remained at its usual moderate price it was hardly worth while to seek for a substitute; but now its price is more than doubled, and the supply from South America hardly equal to the consumption, we may expect to find it dearer and more adulterated every year. The *White Willow Bark* is therefore likely to become an object worth the attention of physicians, and if its success upon a more enlarged scale of practice proves equal to Mr. Stone's experiments, the world will be much indebted to that gentleman for his communication—This bark will tan leather---Horses, Cows, Sheep and Goats eat it.

The

The different species of WILLOW support the following insects.

- Willow Butterfly, *Papilio Antiopa*.
 Great Tortoise-shell Butterfly, *Papilio Polychloros*.
 Eyed Willow Hawk Moth, *Sphinx Ocellata*.
 Poplar Hawk Moth, *Sphinx Populi*.
 Lappet Moth, *Phalena Quercifolia*.
 Fox coloured Moth, *Phalena Rubi*.
 Small Egger Moth, *Phalena Lanestris*.
 Puff Moth, *Phalena Vinula*.
 Dismal Moth. White Sattin Moth, *Phalena Salicis*.
 Buff tip Moth, *Phalena Bucephala*.
 Black Arches Moth, *Phalena Monacha*.
 Pebble Moth, *Phalena Ziczac*.
 Goat Moth, *Phalena Cossus*.
 Willow red-under-wing Moth, *Phalena Pafla*.
 Sallow Moth, *Phalena Citrigo*.
 Cream bordered Pea-green Moth. Province Rose
 Moth, *Phalena Salicella*.
 Bushy Prominent Moth. Emperor Moth, *Phalena*
Pavonia.
 Furbelow Moth, *Phalena Libatrix*.
 Grey Dagger Moth, *Phalena Pfi*.
 Willow Beauty Moth, *Tenthredo Lutea*.
 - - - - - *Tenthredo Caprea*.
 - - - - - *Tenthredo Rustica*.
 - - - - - *Icneumon Glomeratus*.
 Willow Louse, *Appis Salicis*.
 - - - - - *Chrysomela Polita*.
 - - - - - *Chrysomela Sericea*.
 Willow Weevil, *Curculio Nebulosus*.
 White spotted Willow Lady-cow, *Coccinella 14 Guttatus*.
 Horned Frog-hopper, *Cicada Cornuta*.

Order

Order III. Three Chives.

379 CROWBERRY. 1100 Empetrum.

B. Barren Flowers.

EMPAL. Cup with three divisions. Segments egg-shaped ; permanent.

BLOSS. Petals three ; oblong egg-shaped ; narrowest at the base ; larger than the cup ; shrivelling.

CHIVES. Threads three ; hair-like ; very long ; hanging downwards. Tips upright ; short ; cloven.

F. Fertile Flowers.

EMPAL. Cup as above.

BLOSS. Petals as above.

POINT. Seedbud depressed. Shaft hardly any. Summits nine ; reflected and expanding.

S. VESS. Berry round and flat ; depressed ; larger than the cup : with one cell.

SEEDS. Nine ; placed in a jointed circle ; hunched on one side ; angular on the other.

OBS. Sometimes though very rarely flowers have been found containing both chives and pointals.

CROWBERRY. Stems trailing—*This is a small drooping Heath shrub ; the outer bark brown and deciduous ; the inner bark yellow.* Nigrum
 Branches rough with the remains of leaf-stalks. The terminating bud produces five little leaves ; membranaceous : hairy at the edges ; standing on five little leaf-stalks ; four of them placed in a whorl. Leaves somewhat three cornered, with a white line along the back rib ; standing upon leaf-stalks, four together. Flowers at the base of the leaves ; sitting ; solitary ; sustained by a floral leaf, cloven into three parts, and resembling an outer cup. Cup whitish. Petals purple. Threads very long ; purple. Tips black. The plant with flowers bearing only pointals resembles the other but the stem is more of a red colour ; the leaves a fuller green and growing by fives ; the pointal black ; the berry black.

Empetrum montanum fructu nigro. Ray's Syn. 444.

Erica baccifera procumbens nigra. Bauh. pin. 486.

Erica baccifera procumbens. Gerard. 1383.

Erica baccifera nigra. Park. 1485.

Black-berried Heath. Crow-berries. Crake-berries.

On boggy heaths and mountains. P. April. May.

Greedy

Greedy children sometimes eat the berries; but when taken in large quantities they occasion head-ache—Grouse feed upon them—Boiled with alum they afford a dark purple dye—Goats are not fond of it; Cows, Sheep and Horses refuse it.

Order IV. Four Chives.

380 SALLOWTHORN. 1106 Hippophae.

B. Barren Flowers.

EMPAL. *Cup* one leaf; divided into two parts forming two valves. Base of the leaf undivided. *Segments* circular: blunt; concave; upright, but the points approaching; open at the sides.

BLOSS. None.

CHIVES. *Threads* four; very short. *Tips* oblong; angular; almost as long as the cup.

F. Fertile Flowers.

EMPAL. *Cup* one leaf; oblong egg-shaped; tubular; resembling a club; cloven at the rim; deciduous.

BLOSS. None.

POINT. *Seedbud* roundish; small. *Shaft* simple; very short. *Summit* rather thick; oblong; upright; twice as long as the cup.

S.VESS. *Berry* globular; with one cell.

SEED. Single; roundish.

Sea
Rhamnoides

SALLOWTHORN. Leaves spear-shaped — *The barren flowers solitary; beneath the leaves, betwixt the branches and the buds. The fertile flowers solitary and sitting at the base of the lower leaves.*
Rhamnoides fructifera, foliis Salicis, baccis leviter flavescens. *Ray's Syn.* 445.

Rhamnus. *Gerard.* 1334.

Rhamnus Salicis folio angusto, fructu flavescens. *Baub. pin.*

477.

Rhamnus primus Dioscoridis Lobelio, five littoralis. *Park.* 1006.

Sea Buckthorn.

On the sea-coast. S. April.

Cows refuse it; Goats, Sheep and Horses eat it.

381 MISLETOE. 1105 Viscum.

B. *Barrren flowers.*EMPAL. *Cup with four divisions. Little leaves egg shaped ; equal.*BLOSS. *None.*CHIVES. *Four. Threads none. Tips oblong ; tapering ; one fixed to each leaf of the cup.*F. *Fertile flowers mostly growing opposite the others.*EMPAL. *Cup four leaves ; egg shaped ; small ; sitting on the seedbud ; deciduous.*BLOSS. *None.*POINT. *Seedbud beneath ; oblong ; three edged ; indistinctly crowned with a border with four clefts. Shaft none. Summit blunt ; a little notched.*S. VESS. *Berry globular ; with one cell ; smooth.*SEED. *Single ; inversely heart-shaped ; compressed ; blunt ; fleshy.*

MISLETOE. *Leaves spear-shaped ; blunt. Stem forked ; flowers in spikes in the bosom of the leaves—This is a parasitical evergreen shrub. Blossoms greenish white. Berries whitish. The root insinuates its fibres into the woody substance of the plant on which it grows.* White Album

Viscum. *Gerard. 1315. Ray's Syn. 464. vulgare. Park. 1392.*

Viscum baccis albis. Baub. pin. 423.

White Mistle.

It is found upon Willows, Oaks, Hazels, Peartrees, and Appletrees, but on Crabtrees principally. S. May.

Birdlime may be made from the berries and from the bark—The Mistletoe Bird, the Fieldfare, and the Thrush eat the berries, the seeds of which pass through them unchanged, and along with their excrements adhere to the branches of trees, where they vegetate. Some authors observing that the roots are always inserted on the under side of the branches, deny this method of propagation ; but they do not recollect that the rains will soon wash them into that situation, though it is highly probable that they first fell upon the upper side of the branch—No art hath yet been invented to make these plants take root in the earth—Mistletoe was formerly in great repute as a remedy for Epileptic and other complaints ; but it is now very much disregarded ; and indeed its sensible qualities promise but little. Some remains of Druidical superstitions probably gave birth to its medical fame, and an opinion which many people are fond to entertain, (viz.) that every climate produces remedies to counterbalance the diseases of its inhabitants, is one reason why

VOL. II.

Q

in

in these more enlightened days such ideas still continue to exist. Without entering into the discussion of a question which would give rise to much altercation, and be productive of little real advantage, it may be sufficient to observe, that whilst the inhabitants of this island were contented with the products of their own country, it is probable that the remedies of this country were equal to its diseases: but when foreign productions and foreign manners were introduced; it then became necessary to introduce foreign remedies.

382 GALE. 1107 Myrica.

B. *Barren Flowers.*

EMPAL. *Catkin* oblong egg-shaped; tiled on every side; limber; consisting of *Scales* inclosing a single flower; crescent-shaped; tapering to a blunt point; concave.

Individual Cup none.

BLOSS. None.

CHIVES. *Threads* four, (sometimes but rarely six;) thread-shaped; short; upright. *Tips* large; double; with the lobes cloven.

F. *Fertile Flowers.*

EMPAL. As above.

BLOSS. None.

POINT. *Seedbud* somewhat egg-shaped. *Shafis* two; thread-shaped; longer than the cup. *Summits* simple.

S. VESS. *Berry* one cell.

SEED. Single.

OBS. In the Sweet GALE the fruit is a dry berry, or rather a leather like coat, compressed at the end, and formed of three lobes.

Sweet
Gale

GALE. Leaves spear-shaped; somewhat serrated. Stem somewhat woody—*Smooth*; of the colour of rusty iron; with white dots. The Buds producing flowers are placed at the ends of the branches; these producing leaves, at the sides. Each bud is composed of nine shining leafy scales. Leaves on leaf-stalks, serrated towards the ends and beset with resinous dots.

Gale, frutex odoratus septentrionalium; *Elæagnus Cordi*. Ray's Syn. 443.

Rhus Myrtifolia Belgica. *Bauh. pin.* 414.

Rhus sylvestris, five *Myrtus Brabantica* vel *Anglica*. *Park.* 1451.

Myrtus Brabantica, seu *Elæagnus Cordi*. *Gerard.* 1414.

Goule. Sweet Willow. Dutch Myrtle.

In marshy barren ground. S. May.

The

The northern nations formerly used this plant instead of hops; but unless it is boiled a long time it is apt to occasion head-ach—The catkins boiled in water throw up a waxy scum, which gathered in sufficient quantity would make candles. From another species of this plant, which is a native of warmer climates, the myrtle candles are prepared—Gathered in the autumn it dyes wool yellow—It is used to tan calf-skins. — Horses and Goats eat it; Sheep and Cows refuse it.

Order IV. Five Chives.

383 H O P. 1116 Humulus.

B. Barren Flowers.

EMPAL. *Cup* five leaves; oblong; concave; blunt.

BLOSS. None.

CHIVES. *Threads* five; hairlike; very short. *Tips* oblong.

F. Fertile Flowers.

EMPAL. *General Fence* with four clefts; sharp.

Partial Fence with four leaves; egg-shaped; inclosing eight florets, each of which is furnished with a

Cup of one leaf; egg-shaped; very large; flat on the outer side; approaching at the base; obliquely expanding; entire.

BLOSS. None.

POINT. *Seedbud* very small, *Shafts* two; awl-shaped; reflected and standing wide. *Summits* sharp.

S. VESS. None. The *Cup* closing at the base contains the seed.

SEED. One. Roundish; covered by a coat.

HOP. As there is only one species known, Linnæus gives Brewers no description of it.—*Leaves* divided into lobes; serrated. *Flowers* greenish yellow. *Stems* climbing. Lupulus

Lupulus mas et femina. *Bauh. pin.* 298. *Ray's Syn.* 137.

Lupulus sylvestris. *Park.* 176.

Lupus salictarius. *Gerard.* 835.

Hops.

In hedges. P. June.

Soil and cultivation occasion some varieties, as the *Garlic Hop*; the *Long White Hop* and the *Oval Hop*; but for the common purposes of brewing they are distinguished as *Kentish Hops* or *Worcestershire Hops*.

CHIVES and POINTALS Distinct.

If the hop-yards were covered with stones, the plants would be less liable to suffer from the honey-dew or from the Otter-Moth; for the honey-dew is the excrement of a species of louse, (*Aphis*) but these insects seldom increase so as to endanger the plant, unless it is in a weak condition; and the larvæ of the Otter-moth at the roots, first occasion the plant to be sickly. Now when the hop grows wild in stony places and in fissures of rocks, where the moth cannot penetrate to deposit its eggs, the hop is never known to suffer from the honey dew.—The flowers of the fertile plants are very generally infused in wort or boiled along with it to prevent the ale growing sour.—The young shoots are eaten early in the spring as sparagus, and are sold under the name of Hop-tops—Strong cloth is made in Sweden from the stalks. For this purpose they must be gathered in autumn, soaked in water all winter; and in March, after being dried in a stove they are dressed like flax. Horses, Cows, Sheep, Goats and Swine eat it.—The Peacock Butterfly, *Papilio Jo*, the Common Butterfly, *Papilio C. album*, the Otter Moth, *Phalena Humuli* and the *Phalena Rosstralis* live upon it.

Order VI Six Chives.

384 LADYSEAL. 1119 Tamus.

B. Barren flowers.

EMPAL. Cup with six divisions. Little Leaves betwixt egg- and spear-shaped; expanding towards the top.

BLOSS. None.

CHIVES. Threads six; simple; shorter than the cup. Tips notched at the end.

F. Fertile Flowers.

EMPAL. Cup one leaf, with six divisions; bell shaped; expanding. Segments spear-shaped; superior; shrivelling.

BLOSS. Petals none.

Honey-cup, an oblong dot at the base of each segment of the cup, on the inner side.

POINT. Seedbud beneath; oblong egg-shaped; large; smooth. Shaft cylindrical, as long as the cup. Summits three; reflected; notched at the end; sharp.

S. VESS. Berry egg-shaped; with three cells.

SEEDS. Two; globular.

LADYSEAL.

LADYSEAL. Leaves heart-shaped ; undivided.—*Stems* Bryony
twining. Blossoms *greenish*. Berries *red*. Root *very large*. *Communis*.
Tamnus racemosa, flore minore luteo pallescente. *Ray's*
Syn. 262.

Bryonia nigra. *Gerard.* 869.

Bryonia sylvestris nigra. *Park.* 178.

Bryonia laevis seu nigra racemosa. *Baub. pin.* 297.

Black Briony.

Hedges and rough places. P. June.

The young shoots are good eating when dressed like *sparagus*—
 The root is acrid and stimulating—Horses will not eat this
 plant.

Order VII. Eight Chives

385 P O P L A R. 1123 Populus.

B. *Barren Flowers.*

EMPAL. *Common Catkin* oblong ; loosely tiled ; cylindrical ; consisting of *Scales*, inclosing a single flower ; oblong ; flat ; ragged at the edge.

BLOSS. *Petals* none.

Honey-cup one leaf ; turban-shaped beneath ; tubular ; ending at the top obliquely, in an egg-shaped border.

CHIVES. *Threads* eight ; extremely short. *Tips* four-edged ; large.

F. *Fertile Flowers.*

EMPAL. *Catkin* and *Scales* as above.

BLOSS. *Petals* none.

Honey-cup as above.

POINT. *Seedbud* egg-shaped, but tapering. *Shaft* hardly discernible. *Summit* with four clefts.

S. VESS. *Capsule* egg-shaped ; with two cells and two valves. *Valves* reflected.

SEEDS. Numerous ; egg-shaped ; furnished with a hair-like *Feather*.

Abele
Alba

POPLAR. Leaves circular ; toothed and angular ; downy on the under surface—*The flowers are altogether the same as those in next species. Leaves entirely destitute of glands.*

Populus alba. Gerard. 1486. Park. 1400. Ray's Syn. 446.

Populus alba majoribus foliis. Baub. pin. 429.

Abele Tree.

Hedges and near brooks. S. March.

White

1. There is one variety with variegated, and another with smaller leaves.

It loves low situations, and flourishes best in clay. It grows quick and bears cropping, but it is unfavourable to pasturage—The wood is soft, white and stringy : it makes good wainscoting, being but little subject to swell or shrink. Floors, laths, packing boxes and turners ware are made of it.

Horses, Sheep and Goats eat it ; Cows are not fond of it.

Trembling
Tremula

POPLAR. Leaves circular ; toothed and angular ; smooth on both sides—*On long leaf stalks. The Leaf Stalks are compressed towards the top, from whence the leaves have a tremulous or vibrating motion. There is a double glandular substance on the inner side of the base of each leaf*

Populus lybica. Gerard. 1487. Park. 1411. Ray's Syn. 446.

Populus Tremula. Baub. pin. 429.

Asp. Aspen Tree.

Moist woods. S. March.

It will grow in all situations, and in all soils, but worst in clay. It impoverishes the land ; its leaves destroy the grass, and the numerous shoots of the roots spread so near the surface of the earth that they will not permit any thing else to grow. It is easily transplanted—The wood is extremely light, white, smooth, woolly, soft ; durable in the air—The bark is the principal food of Beavers. The bark of the young trees is made into torches.—The leaves and leaf stalks sometimes are set with red globular substances about as large as a Pea, which are the nests of the *Tipula Juniperina*.—Sheep and Goats eat it ; Horses and Swine refuse it.

Black
Nigra

POPLAR. Leaves triangularly spear-shaped ; broad ; tapering ; serrated—*The Leaves have no glands at the base ; but the teeth at the edges are glandular. Leaf Stalks yellowish.*

Populus nigra. Gerard. 1485. Baub. pin. 429. Park. 1410. Ray's Syn. 440.

Near rivers and wet shady places. S. March.

It loves a moist black soil ; grows rapidly and bears cropping—The wood is not apt to splinter—The bark being light like cork, serves to support the nets of fishermen—The red substances like berries upon the leaf-stalks, as large as a cherry, hunched on one side and gaping on the other, are occasioned by an insect called the *Apbis Eurfaria*.—Horses, Cows, Sheep and Goats eat it.

The

The several species support the following Insects.

- Poplar hawk Moth. *Sphinx Populi*.
 Puffs Moth. *Phalena Vinula*.
 December Moth. *Phalena Populi*.
 Black tussock Moth. *Phalena Fajcelina*.
 Orange under-wing Moth.
 Poplar Louse. *Aphis Populi*.
 - - - - - *Chrysomela Polita*.
 - - - - - *Chrysomela Populi*.
 Poplar Weevil. *Curculio Tortrix*.
 Poplar Bug. *Cimex Populi*.
 Hornet Moth. *Sphinx Apiformis*.

386 ROSEWORT. 1124 Rhodiola,

B. Barren Flowers.

EMPAL. Cup with four divisions; concave; upright; blunt; permanent.

BLOSS. Petals four; oblong; blunt; upright but expanding; twice as long as the cup; deciduous.

Honey-cups four; upright; notched at the end; shorter than the cup.

CHIVES. Threads eight; awl-shaped; longer than the blossom. Tips simple.

POINT. Seedbuds four; oblong; tapering. Shafts and Summits imperfect.

S. VESS. Barren.

F. Fertile Flowers.

EMPAL. Cup as above.

BLOSS. Petals four; rude; upright; blunt; equal in height to the cup; permanent.

Honey-cups as above.

POINT. Seedbuds four; oblong; tapering; ending in straight simple Shafts. Summits blunt.

S. VESS. Capsules four; horned; opening inwards.

SEEDS. Many; roundish.

ROSEWORT. As there is only one species known, Linnaeus gives no description of it—Root white; with the odour of a Rose. Stem simple; upright; leafy. Leaves serrated. Blossoms terminating; yellow.

Anacampteros radice Rosam spirante major. Ray's Syn. 260.

Rhodia radix. Baub. pin. 286. Gerard. 532. Park. 729.

On mountains. P. June—July.

Q 4

The

CHIVES and POINTALS Distinct.

The root has the fragrance of a Rose, particularly when dried ; but cultivated in a garden it loses most of its sweetness.—Goats and Sheep eat it ; Cows and Swine refuse it.

Order VIII. Nine Chives.

387 MERCURY. 1125 Mercurialis.

B. Barren Flowers.

EMPAL. Cup with three divisions. Segments betwixt egg- and spear-shaped ; concave ; expanding.

BLOSS. None.

CHIVES. Threads nine, or twelve ; hair-like ; straight ; as long as the cup. Tips globular ; double.

F. Fertile Flowers.

EMPAL. Cup as above.

BLOSS. None.

Honey-cups, two awl-shaped pointed substances ; one placed on each side the seedbud, and pressed into its furrows.

POINT. Seedbud roundish ; compressed, with a hollow furrow on each side ; rough with hairs. Shafts two ; reflected ; horned ; rough with hair. Summit sharp ; reflected.

S. VESS. Capsule roundish ; purse-shaped ; double ; with two cells.

SEEDS. Solitary ; roundish.

Dog's
Perennis

MERCURY. Stem undivided ; leaves rough—*Opposite serrated.*

Mercurialis perennis repens Cynocrambe dicta. Ray's Syn. 138.

Mercurialis montana spicata, et Mercurialis montana spicata. Baub. pin. 122.

Mercurialis sylvestris Cynocrambe dicta vulgaris, mas et fœmina. Park. 295.

Cynocrambe mas et fœmina. Gerard. 333.

Woods and ditchbanks. P. April—May.

This plant dressed like spinach is very good eating early in the Spring, and is frequently gathered for that purpose ; but it is said to be hurtful to Sheep ; and Mr. Ray relates the case of a Man, his Wife and three Children, who experienced highly deleterious effects from eating it fried with bacon ; but this was probably

probably when the spring was more advanced, and the plant was become acrimonious—Steeped in water it affords a fine deep blue colour.—Sheep and Goats eat it; Cows and Horses refuse it.

MERCURY. Stem branched; leaves smooth; flowers in French spikes.— Annua

Mercurialis annua glabra vulgaris. Ray's Syn. 139.

Mercurialis testiculata seu Mas. Baub. pin. 121.

Mercurialis spicata seu fœmina. Baub. pin. 121.

Mercurialis mas et fœmina. Gerard. 333.

Mercurialis vulgaris mas et fœmina. Park. 295.

Herb Mercury.

Amongst rubbish. A. September.

The whole plant is mucilaginous, and was formerly much employed as an emollient, but is now disregarded.—

The small old Gentlewoman Moth, and the Angleshade Moth, *Phalena Meticulosa*, feed upon it.

388 FROGBIT. 1126 Hydrocharis.

B. Barren Flowers.

EMPAL. *Sheath* of two leaves; oblong; inclosing three flowers.

Cup proper, of three *Leaves*; oblong egg-shaped; concave; membranaceous at the edge.

BLOSS. *Petals* three; circular; flat; large.

CHIVES, *Threads* nine; awl-shaped; upright; disposed in three rows; the middlemost row in the center sends out an awl-shaped little pillar, resembling a shaft, from the inner side of the base. The other two rows are connected at the base, so that the outer and inner thread adhere together. *Tips* simple.

POINT. *Seedbud* only a rudiment; placed in the center of the flower.

F. Fertile Flowers.

EMPAL. *Sheath* none. Flowers solitary.

Cup as above: superior.

BLOSS. As above.

POINT. *Seedbud* beneath: roundish. *Shafts* six; as long as the cup; compressed; cloven and furrowed. *Summits* cloven; tapering.

S. VESS. *Capsule* like leather; roundish; with six cells.

SEEDS. Numerous; very small; roundish.

FROG

Water

Morfus ranæ

FROGBIT. As there is only one species known Linnæus gives no description of it.—*Leaves kidney-shaped; thick; smooth; brown green. Blossoms white.*

Nymphæa alba minima. Faub. pin. 193, five Morfus Ranæ. Park. 1252.

Morfus Ranæ. Gerard. 813.

Stratiotes foliis Aloes, semine rotundo. Ray's Syn. 290.

1. Variety with double flowers, of a very sweet smell.—Observed by Mr. Ray in a ditch on the side of Audrey Causey in the Isle of Ely.

Nymphæa alba minima, flore pleno odoratissimo. Ray's Syn. 290.

Slow streams and wet ditches. P. June.

Order XIII. Threads United.

389 J U N I P E R. 1134 Juniperus.

B. Barren Flowers.

EMPAL. Catkin conical; consisting of a common spike-stalk, in which three opposite flowers are placed in a triple row, and a tenth flower at the end. At the base of each flower is a

Scale; broad; short; fixed side-ways to a little pillar like a footstalk.

BLOSS. None.

CHIVES. Threads, (in the terminating flower) three; awl-shaped; united at the bottom into one body. The threads in the lateral flowers are hardly perceptible. *Tips* three; distinct in the terminating flower; but in the lateral flowers fixed to the scale of the empalement.

F. Fertile Flowers.

EMPAL. Cup with three divisions; very small; growing to the seedbud; permanent.

BLOSS. *Petals* three; stiff; sharp; permanent.

POINT. *Seedbud* beneath. *Shafis* three; simple. *Summits* simple.

S. VESS. *Berry* fleshy; roundish; marked in the lower part with three opposite tubercles which were formerly the cup; and marked at the top by three little teeth which were originally the petals.

SEEDS. Three; hard as bone; convex on one side; angular on the other; oblong.

JUNIPER.

JUNIPER. Leaves growing by threes; expanding; sharp-Common pointed; longer than the berry.—*Bark reddish.* Berries *blue* Communis *black.*

Juniperus vulgaris, Baccis parvis purpureis. Ray's Syn. 444.

Juniperus. Gerard. 1372. *vulgaris.* Park. 1028.

Juniperus vulgaris fruticosa. Baub. pin. 488.

Juniperus vulgaris arbor. Baub. pin. 488.

On Heaths and in woods. S. May.

1. With broader leaves and egg-shaped berries.—

Juniperus alpina. Park. 1028. Ray's Syn. 444.

Juniperus alpina minor. Gerard. 1372.

Juniperus minor montana, folio latiore, fructuque longiore. Baub. pin. 489.

Heaths and woods. 1. Mountains.

It grows in fertile or in barren soils; on hills or in valleys; in open sandy plains, or in moist and close woods. On the sides of hills its trunk grows long; but on the tops of rocky mountains and on bogs it is little better than a shrub. It is easily transplanted and it bears cropping. Grass will not grow beneath it, but the *Meadow Oat* destroys it—The wood is hard and durable. The bark may be made into ropes—The berries are two years in ripening. When bruised they afford a pleasant diuretic liquor, but it is not easy to prevent its growing sour. It is esteemed a good antiscorbutic. The Swedes prepare an extract from the berries which some people eat for breakfast, but it is fitter for a medicine than for food. The spirit impregnated with the essential oil of these berries is every where known by the name of *Gin*, or *Juniper water*—The berries sometimes appear in an uncommon form, the leaves of the cup grow double the usual size; approaching, but not closing; and the three petals fit exactly close, so as to keep the air from the *Tipula Juniperi* which inhabit them—*Gum Sandarach*, more commonly called *Pounce*, is the product of this tree.—Horses, Sheep and Goats eat it.

The *Juniper Bug*, *Cimex Juniperinus*, the *Thrips Juniperina* and the *Coccinella* of *Punzata* feed upon it.

CHIVES and POINTALS Separate.

390 Y E W. 1135 Taxus.

B. *Barren Flowers.*EMPAL. None; except the *Bud* which resembles a cup with three or four leaves.

BLOSS. None.

CHIVES. *Threads* numerous; united below into a column longer than the bud. *Tips* depressed; blunt at the edge; with eight clefts; opening each way at the base; and having parted with the dust, flat, target-shaped, and the clefts in the edge become more remarkable.F. *Fertile Flowers.*

EMPAL. As above.

BLOSS. None.

POINT. *Seedbud* egg-shaped; but tapering. *Shaft* none. *Summit* blunt.S. VESS. *Berry* an expansion of the receptacle; succulent and globular; open at the end; coloured. In course of time it grows dry; decays, and disappears.

SEED. Single; egg-shaped but oblong; standing out of the open end of the berry.

OBS. *This species of berry is very singular, and strictly speaking can hardly be called a seed-vessel.*Common
BaccataYEW. Leaves growing near together—*The berries come to perfection the second year. Bark reddish. Berries when ripe, red.*

Taxus. Gerard. 1370. Park. 1412. Baub. pin. 505. Ray's Syn. 445.

Yew Tree.

On mountains. S. March—April.

Varieties.

1. Leaves broad and shining.
2. Leaves variegated.

It grows best in a moist loamy soil. On bogs or dry mountains it languishes. It bears transplanting even when old. It is often planted to make hedges, and as these hedges admit of clipping, they form excellent screens to keep off the cold winds from tender plants—The wood is hard, smooth, and beautifully veined with red. It is converted into bows, axle-trees, spoons, cups, cogs for mill wheels and flood-gates for fish-ponds which hardly ever decay—The berries are sweet, and viscid. Children often eat them in large quantities without any inconvenience—The fresh leaves are fatal to the human species. Cattle are sometimes killed by browsing upon the branches that are cut off and are half withered, but when growing it is doubtful whether

whether such an effect would follow. Indeed from the Upsal experiments it appears that neither Cows nor Horses will eat it in a recent state. Sheep and Goats eat it, but the former are said to have been killed by browsing upon the bark.

Order XIV. Tips United.

391 PETTIGREE. 1139 Ruscus.

B. *Barren Flowers.*

EMPAL. *Cup* with six leaves; upright, but expanding. *Leaves* egg-shaped, convex; the edges at the side reflected.

BLOSS. None. Unless you consider every other leaf of the cup as such.

Honey-cup egg-shaped; as large as the cup; blown up; open at the rim; upright.

CHIVES. *Threads* none. *Tips* three; expanding; placed upon the end of the honey-cup; united at the base.

F. *Fertile Flowers.*

EMPAL. *Cup* as above.

BLOSS. *Petals* as above.

Honey-cup as above.

POINT. *Seedbud* oblong egg-shaped; hidden within the honey-cup. *Shaft* cylindrical; as long as the honey-cup. *Summit* blunt; projecting through the mouth of the honey-cup.

S. VESS. *Berry* globular; with three cells.

SEEDS. Two; globular.

OBS. *In this and other genera nearly related to it, it is seldom that all the seeds come to perfection; for the most part one seed takes to enlarge and by pressure, destroys the others.*

PETTIGREE. Leaves bearing the flowers on the upper Prickly surface; naked.—*Stem* tough; woody, branched; scored. Leaves *Aculeatus* betwixt egg and spear-shaped; pointed. Blossoms yellowishgreen. Berries red.

Ruscus. *Bruh.* pin. 470. *Park.* 253. *Ray's Syn.* 262.

Ruscus five *Bruteus.* *Gerard.* 907.

Knee Holly. Butchers Broom.

Woods and roughs. S. March—April.

In Italy it is made into besoms, and the butchers use them to sweep their blocks. Hucksters place the boughs round their bacon and cheese to defend them from the Mice, for they cannot make their way through the prickly leaves.

C L A S S

C L A S S XXIII.

THIS Class consists of plants in which some of the flowers in the same species have *both* CHIVES and POINTALS, and others have *only* CHIVES, or *only* POINTALS.

H. Signifies the flowers that have both *Chives* and *Pointals*.

B. Signifies the flowers that have only *Chives*.

F. Signifies the flowers that have only *Pointals*.

It is remarkable that in trees with broad leaves, where the Chives and Pointals are in different Empalements, or on distinct trees, is the HAZLE, the POPLAR and the ASH, the flowers come out before the leaves are fully expanded, that the passage of the dust from the Chives to the Pointals might not be interrupted : but where the leaves are narrow, as in the FIR and the YEW Tree, no such provition takes place.

CLASS

C L A S S. XXIII.

VARIOUS DISPOSITIONS.

Order I. Upon one Plant.

- 392 SOFTGRASS. H. *Husk* of two valves, containing one flower. *Chives* three. *Shafts* two. *Seed* one.
 B. *Husk* of two valves, containing one flower. *Chives* three.
- 393 HARDGRASS. H. *Husk* with three awns, containing three flowers. *Chives* three. *Shafts* two. *Seed* one.
 B. *Husk* with three awns, containing three flowers. *Chives* three.
- 394 CROSSWORT. H. *Empal.* none. *Bloss.* with four divisions. *Chives* four. *Shaft* cloven. *Seed* one.
 B. *Empal.* none. *Bloss.* with three or four divisions. *Chives* three or four.
- 395 MAPLE. - H. *Cup* with five clefts. *Bloss.* five petals. *Chives* eight. *Shafts* two. *Caps.* a double berry; winged.
 B. *Cup* with five clefts. *Bloss.* five petals. *Chives* eight.
- 396 PEL-

VARIOUS DISPOSITIONS:

- 396 PELLITORY. - H. *Cup* with four clefts. *Bloss.* none.
Chives four. *Shaft* one. *Seed* one.
 F. *Cup* with four clefts. *Bloss.* none.
Shaft one. *Seed* one.
- 397 ORACHE. - H. *Cup* with five leaves. *Bloss.* none.
Chives five. *Shaft* cloven. *Seed* one.
 F. *Cup* with two leaves. *Bloss.* none.
Shaft cloven; *seed* one.

† *Portland Spurge.* † *Red Spurge.* † *Duckmeat.*

Order II. Upon Two Plants.

- 398 ASH. - - - H. *Empal.* none; or with four divisions. *Bloss.* none; or with four petals. *Chives* two. *Point.* one. *Seed* one.
 F. *Empal.* none; or with four divisions. *Bloss.* none; or with four petals. *Point.* one. *Seed* one.
 † *Tree Holly.*

392 SOFTGRASS. 1146 Holcus.

H. *Flowers with Chives and Pointals.*

EMPAL. *Husk* inclosing one or two florets; with two valves; stiff; without awns.

Outer Valve egg-shaped; concave; large; inclosing the *Inner Valve*, which is oblong; with its sides rolled inwards.

BLOSS. *Husk* of two valves; tender; beset with soft hair; smaller than the empalement. *Outer Valve* generally furnished with a stiff awn, which is longer than the empalement. *Inner Valve* without an awn; very small.

CHIVES. *Threads* three; hairlike. *Tips* oblong.

POINT *Seedbut* turban-shaped. *Shafts* two; hair-like. *Summits* pencil-shaped.

S.VESS. None. The blossom incloses, protects and adheres to the seed.

SEED. Solitary; egg-shaped; inclosed.

B. *Barren Flowers smaller than the other.*

EMPAL. *Husk* with two valves. *Valves* betwixt egg and spear-shaped; rolled inwards; without awns; sharp.

BLOSS. None.

CHIVES. *Threads* three; hair-like. *Tips* oblong.

Obs. See the Plate of GRASSES.

SOFTGRASS. Husks inclosing two florets; almost naked. Florets with chives and pointals, without awns. Florets with only chives with jointed awns.—*Empalements ending in a sharp point.* Creeping Mollis

Gramen miliaceum aristatum molle. Ray's Syn. 404.

Gramen caninum longius radiculatum, majus et minus. Baub. pin. 1.

Pastures and ditch-banks. P. July.

SOFTGRASS. Husks inclosing two florets; woolly. Florets with chives and pointals, without awns. Florets with only chives with crooked awns—*The straws are not collected into a bundle but spread about.* Meadow Lanatus

Gramen pratense paniculatum molle. Baub. pin 2. Park. 1155.

Gramen miliaceum paniculatum molle. Ray's Syn. 404.

Pastures. P. June.

393 HARDGRASS. 1150 *Ægilops*.

H. *Florets with Chives and Pointals two; lateral.*

EMPAL. *Husk very large, with two valves; inclosing three florets. Valves egg shaped; lopped; scored; with awns variously disposed; gristly.*

BLOSS. *Husk with two valves. Outer Valve egg-shaped; terminated by a double or triple awn. Inner Valve spear-shaped; upright without an awn; the edges bent inwards length-ways.*

CHIVES. *Threads three; hair-like. Tips oblong.*

POINT. *Seedbud turban-shaped. Shafts two; reflected; Summits hairy.*

S. VESS. None. The *inner Valve* of the blossom adheres to the seed and doth not open.

SEED. Oblong.

B. *Placed betwixt the other two.*

EMPAL. The blossom inclosed within the husk described above.

BLOSS. As above.

CHIVES. As above.

POINT. *Seedbud as above, but generally barren.*

OES. *See the plate of GRASSES.*

Sea
Incurvata

HARDGRASS. *Spike awl-shaped; without awns; smooth; crooked; one floret in each cup—Spike but little thicker than the Straw; cylindrical. Cups with two valves placed outwardsly.*

Gramen parvum marinum Spica loliacea. Gerard. 78. Ray's Syn. 395.

Gramen loliaceum minus, Spica simplici. Paub. pin. 9.

Phœnix acerola aculeata. Park. 1145.

On the sea-coast. A. July—August.

394 CROSSWORT. 1151 Valantia.

H. Flowers with chives and pointals solitary.

EMPAL. Hardly any; the seedbud occupying its place.

BLOSS. Petal one; flat; with four divisions. Segments egg-shaped; sharp.

CHIVES. Threads four; as long as the blossom. Tips small.

POINT. Seedbud beneath; large. Shaft as long as the chives; cloven half way down. Summit a knob.

S. VESS. Like leather; compressed; reflected.

SEED. Single; globular.

B. Barren flowers solitary; one placed on each side the fertile one.

EMPAL. As above.

BLOSS. As above; with three or four divisions.

CHIVES. As above.

POINT. Seedbud beneath; small. Shaft and Summits imperfect and hardly discernible.

S. VESS. Barren; but there is a slender oblong rudiment which adheres to the side of the fertile flower.

CROSSWORT. Barren flowers with four clefts. Fruit- Yellow stalks with two leaves—*When the seeds ripen the leaves bend inwards and cover them so effectually that birds cannot get at them so long as the plant is entire.* Blossoms yellow. Cruciata

Cruciata. Gerard. 1123. Ray's Syn. 223.

Cruciata vulgaris. Park. 566.

Cruciata hirsuta. Baub. pin. 335.

Crosswort. Mugweed.

Roughs and ditch banks. P. May—June.

395 MAPLE. 1155 Acer.

H. *With chives and pointals.*EMPAL. *Cup* one leaf; with five clefts; sharp; coloured; flat and entire at the base; permanent.BLOSS. *Petals* five; egg-shaped; broadest towards the end; blunt; but little larger than the cup; expanding.CHIVES. *Threads* eight; awl-shaped; short. *Tips* simple. *Dust* cross-shaped.POINT. *Seedbud* compressed; nearly buried in a large perforated convex receptacle. *Shaft* thread-shaped; daily growing longer. *Summits* two; tapering; slender; reflected.S. VESS. *Capsules* two; united at the base; roundish; compressed; each terminated by a very large membranaceous wing.

SEEDS. Solitary; roundish.

B. *Barren Flowers.*

EMPAL. As above.

BLOSS. As above.

CHIVES. As above.

POINT. *Seedbud* none. *Shaft* none. *Summit* cloven.OBS. *At the first opening of the flower the SUMMIT only makes its appearance and after some days the SHAFT shoots out.**In the Sycamore MAPLE the blossom is hardly separated from the cup, and the chives are long.**In some flowers in the same rundle the lower ones have tips which do not shed their dust; but the pointal brings forth perfect fruit; and the upper ones have tips which shed their dust, but the pointals fall off and perish.*Sycamore
Pseudoplatanus

MAPLE. Leaves with five lobes; unequally serrated. Flowers in bunches—yellowish green.

Acer montanum candidum. *Bauh. pin.* 230.Acer majus. *Gerard.* 1484. *Ray's Syn.* 470.Acer majus latifolium, Sycomorus falso dictum. *Park.* 1425.

Greater Maple. Sycamore Tree.

Hedges. S. May—June.

1. There is a variety with striped leaves.

It flourishes best in open places, and sandy ground; but will thrive very well in richer soil. It grows quick; is easily transplanted; bears cropping, and the grass flourishes under its shade. It is said to grow better near the sea than in any other situation, and that a plantation of these trees at fifty feet asunder, with three sea SALLOWTHORNS betwixt every two of them, will make a fence sufficient to defend the herbage of the country from the spray of the sea. *Gent. Mag.* 1757. p. 252.

The wood is soft, and very white. The turners form it into bowls, trenchers, &c.

If a hole is bored into the body of the tree when the sap rises in the spring, it discharges a considerable quantity of a sweetish watery liquor which is used in making wine, and if inspissated it affords a fine white sugar—The dust of the *Tips* appears globular in the microscope, but if touched with any thing moist, these globules burst open with four valves which then appear in form of a cross—The Cockchafer Beetle, *Scarabæus Melolontha*, feeds upon the leaves.

MAPLE. Leaves lobed; blunt; notched—*Bark rough; far-* Common
rowed. Blossoms terminating; pale green. Campeltre

Acer minus. Gerard. 1484. Ray's Syn. 470.

Acer minus et vulgare. Park. 1426.

Acer campeltre et minus. Baub. pin. 431.

1. There is a variety with red fruit. Ray's Syn. 470.

Hedges and roughs. S. April—May.

The wood is much used for turning in the lathe, and vessels may be turned so thin as to transmit light.—Horses will eat the leaves—The Sycamore Tussock moth, *Phalena Aceris*, and the Maple Louse, *Aphis Aceris*, are nourished by both species.

396 PELLITORY. 1152 Parietaria.

H. *Two flowers containing both chives and pointals are inclosed within one flat fence of six leaves: the two opposite and outer leaves the largest.*

EMPAL. Cup one leaf, with four clefts; flat; blunt; half the size of the fence.

BLOSS. None; without you consider the cup as such.

CHIVES. *Threads* four; awl-shaped; longer than the cup; bursting it open; permanent. *Tips* double.

POINT. *Seedbud* egg-shaped. *Shaft* thread-shaped; coloured. *Summit* pencil shaped; with a knob.

S. VESS. None. The *Cup* becoming longer, larger, and bell-shaped, and its segments approaching, closes upon the seed.

SEED. Single; egg-shaped.

F. *Flowers with only pointals. One placed betwixt the other two within the same fence.*

EMPAL. As above.

BLOSS. None.

POINT. As above.

S. VESS. None. *Cup* slender; inclosing the fruit.

SEED. As above.

Wall
Officinalis

PELLITORY. Leaves betwixt spear and egg-shaped. Fruit-stalks forked. Cups with two leaves—*Blossoms greenish white. Flowers with only pointals, pyramidal and four edged. Stems reddish. If you touch the Tips when ripe, with the point of a needle, they burst and throw out their dust with considerable force.*

Parietaria. Gerard. 331. Ray's Syn. 158.

Parietaria vulgaris. Park. 437.

Parietaria officinarum et Dioscoridis. Baub. pin. 121.

Pellitory of the Wall.

On old walls and amongst rubbish. P. May—September.

This plant was formerly in repute as a Medicine, but it does not seem to possess any remarkable qualities—It is asserted that the leaves strewed in granaries destroy the Corn Weevil.

397 ORACHE. 1153 Atriplex.

H. Flowers with chives and pointals.

EMPAL. Cup five leaves; concave; permanent. Segments egg-shaped; concave; membranaceous at the edges.

BLOSS. None.

CHIVES. Threads five; awl-shaped; placed opposite to the leaves of the cup and longer than them. Tips roundish; double.

POINT. Seedbud round. Shaft deeply divided; short. Summits reflected.

S.VESS. None. The Cup closing, hath five sides and five angles; the angles compressed. Deciduous.

SEED. Single; roundish; flatted and depressed.

F. Flowers with only pointals, on the same plant.

EMPAL. Cup two leaves. Leaves flat; upright; egg-shaped; sharp; large; compressed.

BLOSS. None.

POINT. Seedbud compressed. Shaft deeply divided. Summits reflected; sharp.

S.VESS. None. The valves of the cup which are large and heart-shaped inclose the seed betwixt them.

SEED. Single; roundish; compressed.

OBS. There is a very great affinity betwixt the ORACHE and the BLITE, the presence of the Flowers with only pointals in the ORACHE is the only mark of distinction; for if the BLITE had these flowers it would be ORACHE and the ORACHE without them would be BLITE.

ORACHE. Stem somewhat woody. Leaves inversely egg-shaped—Whitish. Spikes greenish purple.

Atriplex maritima fruticosa, Halimus et Portulaca marina dicta, angustifolia. Ray's Syn. 153. Portulacoides

Halimus, seu Portulaca marina. Baub. pin. 120.

Halimus vulgaris, seu Portulaca marina. Gerard. 323.

Portulaca marina nostras. Park. 724.

Sea Purslane.

On the sea-shore. S. August.

Cows, Sheep and Goats eat it.

Jagged
Laciniata

ORACHE. Stem herbaceous; leaves triangularly spear-shaped; broad and toothed; of a silver white beneath—*The whole plant is covered with a skin which peels off.* Stem upright; cylindrical; naked; branched like a rod. Spikes with chives and pointals terminating; Tips of a pleasant red. Flowers with only pointals in pairs. When the fruit ripens the Cup is compressed, and hath five teeth; the middle tooth the largest.

Atriplex maritima. Ray's Syn. 152.

Atriplex maritima laciniata. Baub. pin. 120.

Atriplex marina. Gerard. 326. repens. Park. 758.

Jagged sea Orache. Shrubby sea Orache.

On the sea-shore. A. August.

Cows eat it.

Wild
Hastata

ORACHE. Stem herbaceous. In the flowers with only pointals the valves of the cup are large; triangularly spear-shaped and indented—*Spikes whitish.*

Atriplex erecta. Hudson. 376.

Atriplex sylvestris, folio hastato, seu deltoide. Ray's Syn. 151.

Amongst rubbish; on dung-hills and on the sea-coast. A. August—September.

Varieties.

1. Perennial: with leaves not so hoary—Grows on the sea-shore.

Atriplex maritima perennis folio deltoide seu triangulo minus incano. Hoffm. Oxon. II. 607. 19.

2. With hoary angular leaves, very much indented—On the sea shore.

Atriplex maritima nostras procerior. foliis angulosis incanis admodum sinuatis. Plukenet Alm. 60.

3. With a kind of appendages at the base of the leaves; stem trailing, and the leaves but slightly indented—On the sea-shore.

Atriplex maritima ad foliorum basin auriculata, procumbens et ne vix sinuata. Plukenet Alm. 61.

It is sometimes gathered as a potherb—Cows, Goats, Sheep and Swine eat it.

Narrowleaved
Patula

ORACHE. Stem herbaceous, spreading. Leaves triangularly spear-shaped. The cups containing the seeds toothed in the center—*Spikes whitish.*

Atriplex sylvestris angustifolio. Gerard. 326. Park. 748. Ray's Syn. 151.

Atriplex angustoblongo folio. Baub. pin. 119.

Ditch-banks and amongst rubbish. A. August.

Spear-leaved
Erecta

ORACHE. Stem herbaceous; leaves halberd-shaped and toothed. Hudson. 376.

Atriplex angustifolio laciniata. Ray's Syn. 152.

Amongst rubbish. A. August.

ORACHE.

ORACHE. Stem herbaceous; upright; leaves all strap-shaped; very entire.— Grass-leaved
Littoralis

Atriplex angustifolium et longifolium folio. *Ray's Syn.* 153.

Ray mentions the two following varieties of this plant, the second of which has a blunter leaf; but it does not appear wherein the others differs.

1. *Atriplex maritima*, *Scoparia* folio. *Ray's Syn.* 153.

2. *Atriplex maritima angustifolia obtusior* folio. *Ray's Syn.* 153.

On dunghills; sea-coasts, and amongst rubbish. A. August. September.

ORACHE. Stem herbaceous, upright; leaves strap-shaped serrated. *Hudon.* 377. Indented
Serrata

Atriplex angustifolia maritima dentata. *Ray's Syn.* 152.

Atriplex maritima angustifolia. *Bauh. pin.* 152.

Amongst rubbish and on the sea-shore. A. August.

ORACHE. Stem herbaceous; straddling. Leaves spear-shaped; blunt; entire. Flowers with only pointals on fruit-stalks—*Flowers in bunches; terminating; and on lateral fruit-stalks, at the end of which is placed a cup resembling the fruit of the* Purse MITHRIDATE, *composed of three lobes; the middle lobe the smallest.* Stalked
Pedunculata

Atriplex marina *femine lato*. *Ray's Syn.* 153.

Stalked sea Orache.

On the sea-coast. A. August—September.

1. There is some variety in the form of the leaves, as in the *Atriplex maritima nostras*, *Ocymi minoris* folio. *Ray's Syn.* 153.

The Wild Arrach Moth. *Phalena Atriplicis*.

The July Arrach Moth. The Spotted Buff Moth. *Phalena Lubricipeda*.

The Sword-grass Moth. *Phalena Exfolata*.

The Ealings Glory. *Phalena Oxyacanthæ*, and the Orache Louse. *Aphis Atriplicis* are found upon the different species.

VARIOUS DISPOSITIONS.

Order II. Upon Two Plants.

398 A S H. 1160 Fraxinus.

H. *With chives and pointals.*EMPAL. None : or a *Cup* of one leaf ; with four divisions ; sharp ; upright ; small.BLOSS. None : or *Petals* four, strap-shaped ; long ; sharp ; upright.CHIVES. *Threads* two ; upright ; much shorter than the blossom. *Tips* upright ; oblong ; with four furrows.POINT. *Seedbud* egg shaped ; compressed. *Shaft* cylindrical ; upright. *Summit* rather thick ; cloven.

S. VESS. Spear-shaped ; compressed ; membranaceous ; with one cell.

SEED. Single ; flat ; spear-shaped.

F. *Flowers with only pointals.*

EMPAL. As above.

BLOSS. As above.

POINT. As above.

S. VESS. As above.

SEED. As above.

OBS. *It often happens that the tree bearing flowers with both chives and pointals bath some with only pointals intermixed ; and the reverse.*Common
ExcelliorASH. Little leaves serrated. Flowers without petals—*The lateral buds send forth flowers ; the terminating buds, leaves. The flowers with only pointals have neither petals nor empalement.*

Fraxinus. Gerard. 1472. Ray's Syn. 469.

Fraxinus excellior. Baub. pin 416.

Woods and hedge-rows. S. May—June.

1. The leaves are sometimes variegated with white or straw-colour.

It flourishes best in groves, but it grows very well in rich soil in open fields. It bears transplanting and lopping—In the north of Lancashire they lop the tops of this tree to feed the cattle in autumn when the grass is upon the decline ; the cattle peeling off the bark as food. In Queen Elizabeths time the inhabitants of Colton and Hawkeheadfells remonstrated against the number of forges in the country because they consumed all the loppings and croppings, the sole winter food for their cattle.

Pennants

Pennants Tour 1772. p. 29. The wood hath the singular advantage of being nearly as good when young as when old. It is hard and tough, and is much used to make the tools employed in husbandry. The ashes of the wood afford very good potash—The bark is used for tanning calf-skin. A slight infusion of it appears of a pale yellowish colour when viewed betwixt and the light, but when looked down upon or placed betwixt the eye and an opaque object it is blue. This blueness is destroyed by the addition of an acid, and alkalies recover it again—The seeds are acrid and bitter—In the church-yard of Lochaber in Scotland, Dr. Walker measured the trunk of a dead Ash tree which at 5 feet from the surface of the ground was 58 feet in circumference—Horses, Cows, Sheep and Goats eat it; but it spoils the milk of Cows, so that it should not be planted in dairy farms.

The following insects are found upon it.

The Leopard Wood Moth. The Green Silver-lined Moth.

Phalena Prasinana.

Privet Hawk Moth. *Sphinx Ligustri.*

Scarlet Tyger Moth. *Phalena Dominula.*

Cliefden Nonpareil. *Phalena Fraxini.*

- - - - - *Cerberes Fraxini.*

CLASS

C L A S S XXIV.

UNDER this Class are arranged a number of Vegetables whose Flowers are either but little known, or whose Chives and Pointals are too minute to admit of that mode of investigation which prevails through the twenty-three Classes preceding. The structure too of these vegetables differs considerably from that of other plants. They are divided into four Natural Orders, (viz.) **FERNS; MOSSES; THONGS; and FUNGUSSES.**

F E R N S.

The plants of this order sometimes have their flowers in spikes, as in the HORSETAIL (Plate I. A.) but they are generally disposed in spots or lines on the under surface of the leaves, as in the Harts-tongue, Plate I. B.

EMPAL. A scale springing out of the leaf; opening on one side. Underneath this scale, supported upon little foot-stalks, are

GLOBES, encompassed by an elastic ring, which bursts with violence, and scatters a powder.

O B S E R V A T I O N S,

The seed-vessels on the under surface of the leaves are covered by a very fine, thin, semi-transparent skin, which tears open before the seeds ripen. The seed-vessels themselves are composed of three parts. First, a little fruit-stalk, by means of which they are connected with the surface of the leaf. Second, a globular Capsule standing upon the fruit-stalk. Third, an elastic cord, fixed to the top of the fruit-stalk and surrounding the Capsule. When the Seeds are ripe, the cord endeavours

to become straight, and by its elasticity tears open the Capsule. The Capsule opens like that of the PIMPERNEL, as if it had been cut round with a knife, forming two hollow hemispherical caps. The elastic force which tears it open, disperses the seeds abroad. These are so minute as hardly to be visible to the naked eye. In the months of September and October this curious mechanism is very evident in the Common BRAKES or in the Harts-tongue SPLEENWORT, by the assistance of a good single Microscope with a reflecting Speculum. The sudden jerk of the springing cord frequently carries the object out of the field of view, so that it requires some patience to observe the whole of the process.

As there are no certain distinctions in the Flowers themselves sufficient to establish the Genera, we are guided by their disposition under their covers.

Few of the FERNS are esculent. They have a heavy disagreeable smell. In large doses they destroy worms, and are purgative.

M O S S E S.

This Order is subdivided according as the TIPS have a *Veil* or no *VEIL*: as they are upon the same plant with the POINTAL, or upon different plants; and as the Pointals are *solitary* or incorporated. The

SEEDS consist only of a *Heart* without any *Coat* or *Seed-lobes*. The

TIPS according to Linnæus are rather to be considered as *Capsules*, and the *Dust* which they contain as the real seeds; for within the cover of some of them he thinks he has observed real *Tips* hanging by threads, opening at the end, and letting fall a *Dust* upon the hairs of the fringed ring, which he seems to consider as so many Pointals.

OBSER-

O B S E R V A T I O N S.

It has been doubted whether the powder in the heads of Mosses is the *Dust* or the *Seeds*. but as the dust of all plants explodes in water and flashes in the flame of a candle; and as this powder possesses these properties, there can no longer be a doubt what to call it. These Mosses then with heads or tips furnished with dust, are the barren plants; and except in the Genus *CLUBMOSS*, they have no *Threads*, but a *Tip* only; which in many of them is covered with a *Veil* or *Lid*. The *Seeds* of Mosses are therefore to be sought for in the Fertile Plants, and are sufficiently evident in the Fir *CLUBMOSS*.

The *Fringe* that surrounds the mouth of the tip in most of the Mosses, seems to answer the same, or at least a similar purpose to the down which crowns the seeds of the compound flowers in the nineteenth Class. Before the veil and the lid fall off, the little hairs which compose the fringe lie flat over the mouth of the tip, meeting in the center like the spokes of a wheel. If the lid is taken off by force when the tip is nearly ripe, these hairs immediately rise up and expand horizontally. Now in the natural progress of things as the tip becomes mature, is it not the expansion of this fringe which throws off the lid and opens a passage for the dust? I am indebted for this remark to a young gentleman who will probably one day clear up much of the darkness in which this numerous and neglected tribe of plants are still enveloped; and consequently reduce them to a system something more scientific than what we now can boast of.

The Fertile Flowers, or rather Seeds, in several Genera are totally undiscovered; but in others they are supposed to exist on the inner side at the base of the leaves, in certain starry or cone-like shoots. In plate I. C is a shoot of one of the Mosses. D is a flower-bearing stalk; (a) the veil; (c) the tip; (b) the lid.

Mosses thrive best in barren places. Most of them love cold and moisture. Trifling and insignificant as many people think them, their uses are by no means inconsiderable. They protect the more tender plants when they first begin to expand in the spring, as the experience of the Gardiner can testify, which teaches him to cover with Moss

Moss the soil and pots that contain his tenderest plants ; for it equally defends the roots again the scorching sunbeams and the severity of the frost. In the spring, when the sun has considerable power in the day-time and the frosts at night are severe ; the roots of young trees and shrubs are liable to be thrown out of the ground, particularly in light spongy soils. But if they are covered with Moss, this accident never can happen. Those who are fond of raising trees from seeds, will find their interest in attending to this remark.

Mosses retain moisture a long time without being disposed to putrefy. The angler takes advantage of this circumstance to preserve his worms, and the gardener to keep moist the roots of such plants as are to be transported to any considerable distance.

It is a vulgar error to suppose that Mosses impoverish land. It is true they grow upon poor land that can support nothing else ; but their roots penetrate very little, in general hardly a quarter of an inch into the earth. Take away the Moss, and instead of more grass you will have less ; but manure and drain the land ; the grass will increase and the Moss disappear.

The **Grey Bogmoss**, the **Triangular Marshmoss**, the dwarf and water **Threadmoss**, the hooked, scorpion, floating and pointed **Feathermoss**, grow upon the sides and shallower parts of pools and marshes ; and in process of time ; occupying the space heretofore filled with water, are in their half decayed state dug up and used as fuel under the name of **Peat**. These marshes, drained partly by human industry, and partly by the long continued operations of vegetables, are at length converted into fertile meadows.

Very few Mosses are eaten by cattle. The **Bishop Moth** and the **Brussels Lace Moth** feed upon some of them. Their medicinal virtues are but little known, and less attended to. Some of the species will probably be found very active, and therefore useful medicines.

THONGS.

T H O N G S.

The plants comprised under this division scarcely admit of a distinction of root, stem and leaf; much less are we enabled to describe the parts of the flowers. The Genera therefore are distinguished by the situation of what we suppose to be the flowers or seeds, or by the resemblance of the whole plant to some other substance we are well acquainted with.

Linnaeus calls the plants of this Order SEA-WEEDS, but with no great propriety; for very few of the Genera have any thing to do with the sea. We rather choose to call them THONGS, because the substance of most of them is more or less like leather, and many of them are in the form of Thongs. In plate 1st. E. and F. are specimens of one of the Genera, and G. of another.

These plants, though generally looked upon as unworthy of notice, are of great consequence in the œconomy nature, and afford the first foundation for vegetation. Thus one species of the POWDERWORT, and several species of the CUPTHONG fix upon the barest rocks and are nourished by what slender supply the air and the rains afford them. When these die, they are converted into a very fine earth in which the tiled CUPTHONGS find nourishment, and when these putrify and fall to dust, various Mosses, as the THREADMOSS, FEATHERMOSS, &c. occupy their place; and in length of time when these perish in their turn, there is a sufficiency of soil in which trees and other plants take root. This process of nature is sufficiently apparent upon the smooth and barren rocks upon the sea-shore.

Some of the OARWEEDS are esculent.

Many of the CUPTHONGS are a grateful food to Goats; and the Rein-deer, which constitutes the whole œconomy of the Laplanders, and supports many thousand inhabitants, lives upon one of the species. Many of the species afford colours for dying. One of them brought from the Canary Islands, viz. the Orchel, or Argol, makes a very considerable article of traffic. It is not improbable that some of the species growing in our own island may afford very beautiful and useful colours; but this matter hath not been sufficiently examined. Mr.

Hellot

Hellot gives us the following process for discovering whether any of these plants will yield a red or purple colour.

Put about a quarter of an ounce of the plant in question into a small glass; moisten it well with equal parts of strong Lime-water and spirit of Sal Ammoniac; or the Spirit of Sal Ammoniac made with quick-lime will do without Lime-water. Tye a wet bladder close over the top of the vessel and let it stand three or four days. If any colour is likely to be obtained, the small quantity of liquor you will find in the glass will be of a deep crimson red; and the plant will retain the same colour when the liquor is all dried up. If neither the liquor nor the plant have taken any colour, it is needless to make any further tryals with it."

F U N G U S S E S.

We know very little about the Flowers or Seeds of the Fungusses; The generic characters are therefore taken from their external form. In plate 1. at H. a species of MUSHROOM is represented to shew (a) the *Cap*; (b) the *Pillar*; (c) the *Hat*.

All the Genera under this division, particularly the PUFFBALL and MOULD, abound with a black powder, which examined with a good microscope is found to consist of globules which are supposed to be the seeds. But the Baron Otto MÜNCKHAUSEN says these globules are semi-transparent, containing a little black particle. He says too that if this powder is mixed with water and kept in a warm place, the globules presently swell and are changed into egg-shaped self-moving animalcules. In about two days these animalcules unite and form a mass of a pretty firm texture, or Fungus. When these Fungusses begin to grow, they appear like white veins, which are commonly supposed to be the roots; but in fact they are only tubes in which the animalcules move, and in a short time are transformed into a Fungus, which with plenty of moisture, and a proper degree of warmth grows to a very large size. The black powder found betwix the gills of Mushrooms, produces the same phenomena.

A fact so well attested, and so very singular; could not fail to excite the attention of philosophers, and accordingly the accurate and ingenious Mr. Ellis, whose

VOL. II.

S

disco-

discoveries in many abstruse parts of the animal and vegetable kingdoms, do him the highest honour, undertook the subject; and soon demonstrated that the motion of these globules is occasioned by a number of very minute animalcula feeding upon them; but the animalcula being much smaller than the globules are difficult to detect. See *Philos. Transf.* vol. 59. p. 138. See also *Gent. Mag.* for 1773. p. 316.

Fungusses have been sought for as food, upon account of their high flavour; but nobody supposes them to yield good nourishment; and many have been killed by them. Some of them have been found of considerable use in stopping hæmorrhages, and the acrimonious qualities of others will probably some day be turned to good account.

C L A S S XXIV.

Flowers Inconspicuous.

F E R N S.

* *Flowers in a Spike.*

- 399 HORSETAIL. - *Spike scattered. Flowers target-shaped; with valves at the base.*
 400 ADDERSTONGUE. *Spike jointed. Flowers cut round.*
 401 MOONWORT. - *Spike a sort of bunch. Flowers two valves.*

* * *Flowers on the under surface of the Leaves.*

- 402 RUSTYBACK. Covering the whole surface of the leaf.
 403 POLYPODY. In distinct spots upon the surface of the leaf.
 404 SPLEENWORT. In several nearly parallel lines, upon the surface of the leaf.
 405 BRAKES. - - In lines at the edge of the leaf.
 406 MAIDENHAIR. In spots, covered by the points of the leaves bent back.
 407 GOLDSLOCKS. Flowers solitary; inserted in the very edge of the leaf.

FLOWERS INCONSPICUOUS.

*** *Fertile Flowers at the roots.*

- 408 PEPPERGRASS. Capsule with four cells.]
 409 QUILLWORT. - Capsule with two cells.

M O S S E S.

* *Without Veils.*

- 410 CLUBMOSS. - Tip with two valves ; fitting.
 411 BOGMOSS. - Tip with a smooth mouth.
 412 EARTHMOSS. - Tip with a fringed mouth.

** *With Veils. Chives and Pointals distinct.*

- 413 BOTTLEMOSS. Tip with a large excrescence.
 † *Bottle Earthmoss.*
 414 HAIRMOSS. - Tip with a very small excrescence ;
 bordered.
 † *Hair Marshmoss.* † *Scored Threadmoss.*

- 415 MARSHMOSS. Tip without any excrescence.

*** *With Veils. Chives and Pointals on the same plant.*

- 416 THREADMOSS. Tip on a fruit-stalk rising out of a tu-
 bercle at the end of the branch.
 † *Oval Earth-moss.* † *Axol-shaped Earth-moss.*
 417 FEATHERMOSS. Tip on a fruit-stalk rising out of a
 scaly bulb at the side of the
 branch.
 418 WATERMOSS. Tip fitting ; inclosed in a tiled scaly
 bulb.

T H O N G S.

* *Growing on the Ground.*

- 419 STARTIP. - - Flowers with a simple empalement
 of four valves.
 420 LIVERWORT. - Flowers on the under-side of a com-
 mon target-shaped empalement.
 421 VETCHCAP. - Flowers with an empalement of
 two valves.

422 HORN-

FLOWERS INCONSPICUOUS.

645

- 422 HORNFLOWER. Flowers with a tubular empalement.
Tip awl-shaped, with two valves.
 423 LEATHERCUP. Seeds cylindrical, tubular.
 424 GRAINWORT. - Seeds little grains in the substance
 of the leaf.
 425 CUPTHONG. + Seeds in a smooth, shining recep-
 tacle.
 426 POWDERWORT. Substance woolly.
 † *Star-jelly*

* * *Growing in the water.*

- 427 STARJELLY. - Substance like jelly.
 428 LAVER. - - Substance membranaceous.
 429 OARWEED. - Substance like leather.
 430 RIVERWEED. Substance like hair.

F U N G U S S E S.

* *Furnished with a Hat.*

- 431 MUSHROOM. Hat with gills on the under-side.
 432 SPUNK. - - Hat with pores on the under-side.
 433 PRICKLYCAP. - Hat with prickles on the under-side.
 434 MORELL. - Hat smooth on the under-side.

* * *Without a Hat.*

- 435 TURBANTOP. Shaped like a turban.
 436 FUNNELTOP. Shaped like a bell.
 437 CLUBTOP. - Shaped like a club.
 438 PUFFBALL. - Globular.
 439 MOULD. - - Little bladders supported upon pil-
 lars.

399 HORSETAIL. 1169 Equisetum.

FLOWERS disposed in an egg-shaped oblong spike.

Individuals round; opening at the base with many valves connected at the top, which is flat and target-shaped.—See Plate 1. Fig. A.

- Wood
Sylvaticum
Common
- HORSETAIL. Stem supporting a spike; leaves compound—*All the leaves disposed in whorls; eight or ten in each whorl.*
1. Equisetum sylvaticum. Gerard. 1114. Ray's Syn. 130.
Equisetum sylvaticum tenuissimis setis. Baub. pin. 16.
Equisetum omnium minus tenuifolium. Park. 1201.
- Trailing. Hud.
2. Stem trailing, leaves pointing mostly one way,
Equisetum sylvaticum procumbens, setis uno versu dispositis
Ray's Syn. 131.
- Marsh. Hud.
3. Leaves very long.
Equisetum palustre tenuissimis et longissimis setis. Baub.
pin. 16.
Woods and moist shady places. P. April—May.
Horses are fond of it, and in some parts of Sweden it is collected to serve them as winter food.
- Corn
Arvense
- HORSETAIL. Fruit bearing stalk naked; barren stalk leafy—*The fruit bearing stalks spring up first, but shrivel in a short time; the leafy stalks continue much longer. The Dust when shaken from the spike jumps about as if it was alive.*
- Equisetum arvense longioribus setis. Baub. pin. 16. Park.
1202. Ray's Syn. 130.
Equisetum segetale. Gerard. 1114.
- Long-leaved.
Hud.
1. With very long leaves.
Equisetum pratense longissimis setis. Baub. pin. 16.
Moist cornfields. P. March.
Cows will not eat it unless compelled by hunger.
- Marsh
Palustre
- HORSETAIL. Stem angular; leaves simple,—*Composed of ten or twelve joints.*
- Equisetum palustre brevioribus Setis. Baub. pin. 16.
Equisetum palustre. Gerard. 1114. Ray's Syn. 131. minus.
Park. 1200.
- Many-beaded.
1. Spikes numerous. Leaves with five or six joints. Ray's Syn.
311. tab. 5. fig. 3.
Equisetum palustre minus polystachion. Baub. pin. 16.
In watery places. P. June.

HORSETAIL. Stem scored; leaves generally simple.—River
Twenty or more in each whorl. Fluvatile

Equisetum majus. Gerard. 1115. Ray's Syn. 130.

Equisetum majus palustre. Park. 1200.

Equisetum palustre longioribus foliis. Baub. pin. 15.

Banks of rivers and pools. P. May.

In some places they mix it with the food of Cows to increase the quantity of their milk. Horses are not fond of it.

HORSETAIL. Stem almost naked; smooth.—Leafy as Smooth
the Summer advances. Limosum

Equisetum nudum lævius nostras. Ray's Syn. 131. tab. 5.
fig. 2.

HORSETAIL. Stem naked, rough; sometimes a little Shaving
branched at the bottom.—The sheaths of the joints white. Spike Hymenale
broken; terminating.

1. *Equisetum nudum.* Gerard. 1113. Ray's Syn. 131. Branched

Equisetum junceum ramosum. Park. 1207.

Equisetum foliis nudum ramosum. Baub. pin. 16.

2. *Equisetum nudum minus variegatum Basilicente.* Baub. pin. 16. Variegated

3. Stem undivided. Undivided

Equisetum foliis nudum non ramosum seu junceum. Baub.
pin. 16.

Equisetum junceum seu nudum. Park. 1201.

4. Stem rather smooth. Smoother. Hud.

Equisetum læve præne nudum. Petiver Conc. Gram. 238.

Shave-grass. Pewterwort.

In marshy places. P. July—August.

The Turners and Cabinet-makers use it to smooth their work.
—It is wholesome to Horses, hurtful to Cows and hateful to
Sheep.

400 ADDERSTONGUE. 1171 Ophioglossum.

CAPSULES. Pointing from two opposite lines; with numerous joints placed transversely, and divided into as many cells as there are joints. When ripe every cell opens transversely.

SEEDS. Numerous; very small; somewhat egg-shaped.

ADDERSTONGUE. Leaf egg-shaped.—Spike very slender; Common
on a fruit-stalk. Vulgatum

Ophioglossum. Gerard. 401. Ray's Syn. 128. seu Lingua
serpentina. Park. 506.

Ophioglossum primum, five vulgatum. Baub. pin. 354.

Moist meadows and damp walls. P. May.

401 MOONWORT. 1172 Osmunda.

CAPSULES, Globular, distinct disposed in a bunch; and opening horizontally.

SEEDS. Numerous; very small; egg-shaped.

Common
Lunaria

MOONWORT. Stalk rising from the stem; solitary. Leaf winged, solitary.—*Within the base of the stem early in the spring, may be found a complete rudiment of the next year's plant. Capitules yellowish.*

Lunaria minor. Gerard. 328. Park. 507. Ray's Syn. 128.

Lunaria racemosa minor. Baub. pin. 354.

Jagged. Hud.

1. With jagged leaves.

Lunaria minor foliis dissectis. Ray's Syn. 129.

Hilly pastures. P. May.

Royal
Regalis

MOONWORT. Leaf doubly winged; bearing bunches of flowers at the ends.—*Root thready; bundled; black.*

Osmunda regalis, seu Filix florida. Park. 1038.

Filix ramosa non dentata florida. Baub. pin. 357.

Filix florida seu Osmunda regalis. Gerard. 1131.

Flowering Fern. Osmund Royal.

In putrid marshes. P. July—August.

The root boiled in water is very slimy and is used in the North to stiffen linen instead of starch. Only some of the leaves bear flowers.

Rough
Spicant

MOONWORT. Leaves spear-shaped, with winged clefts. Segments very entire, parallel, running into each other.—*The flowering leaves much narrower than the barren leaves.*

Lonchitis aspera. Gerard. 1140. Ray's Syn. 118.

Lonchitis aspera minor. Baub. pin. 359. Park. 1042.

Rough Spleenwort.

Groves and moist heaths. P. July.

Stone
Crispa

MOONWORT. Leaves more than doubly compound: little leaves alternate: circular, but jagged—*With yellow lines on the under side, parallel to the middle rib.*

Adiantum album crispum alpinum. Ray's Syn. 126.

Stone Fern.

On Rocks. P. August.

402 RUSTYBACK. 1173 Acrostichum.

FLOWERS entirely covering the under surface of the leaf.

RUSTY.

RUSTYBACK. Leaf simply divided ; naked ; strap-shaped ; Forked jagged.—
Septentrionale

Filix saxatilis cordiculata. Baub. pin. 358.

Filix saxatilis Tragi. Park. 1045. Ray's Syn. 120.

Horned Fern.

Old walls and clefts of rocks. P. August.

RUSTYBACK. Leaves almost doubly winged ; little leaves Hairy opposite : united ; blunt ; hairy underneath ; very entire at the base.—*About as long as ones finger.*

Filix alpina ; pedicularis rubrae foliis subtus villosis. Ray's Syn. 118.

Clefts of rocks. P.

RUSTYBACK. Leaves winged ; little leaves with winged clefts ; very entire—*Leaf-stalks smooth. Barren leaves broader and more blunt than the others. Circles of flowers ten pair or more.* Marsh Thelypteris

Filix minor palustris repens.. Ray's Syn. 122.

Dryopteris. Gerard. 1135. seu Filix querna repens. Park. 1041.

In turfy Bogs. P. August.

403 P O L Y P O D Y. 1179 Polypodium.

FLOWERS disposed in distinct circular dots on the under surface of the leaf.

* *Leaves with winged clefts. Lobes united.*

POLYPODY. Leaves with winged clefts ; wings oblong ; somewhat serrated ; blunt. Root scaly,—and hairy. Flowers yellowish brown ; in rows, parallel to the rib of the little leaves. Common
Vulgar

Polypodium vulgare. Baub. pin. 359. Park. 1039.

Polypodium. Gerard. 1138. Ray's Syn. 117.

2. Little leaves serrated.—

Polypodium murale pinnulis serratis. Ray's Syn. 117.

Serrated. Hud.

On old walls ; shady places ; and at the roots of trees. P.

The root is sweetish : by long boiling it becomes bitter. When fresh it is a gentle purgative. An infusion of six drams of it in half a pint of boiling water may be taken at twice.

POLYPODY. Leaves with winged clefts ; wings spear-shaped : ragged with clefts, and serrated. Jagged

Polypodium Cambro-britannicum pinnulis ad margines laciniatis. Ray's Syn. 117. Cambricum

On rocks. P.

** *Leaves.*

* * *Leaves winged.*

- Spleenwort
Lonicitris
- POLYPODY. Leaves winged; wings crescent-shaped; fringed; ferrated, declining. Stalks beset with stiff flat hairs.—*Spots of flowers twelve pair or more.*
Lonicitris aspera major. Gerard. 1140. Ray's Syn. 118.
Lonicitris aspera. Raub. pin. 359.
Lonicitris aspera major Matthiolo. Park. 1042.
 Great Polypody. Spleenwort.
 Clefts of rocks. P.

- Rock
Fontanum
- POLYPODY. Leaves winged and jagged; wings circular, sharply and elegantly cut; stalk smooth—*It resembles the Brittle POLYPODY but the wings stand closer together and are not so deeply subdivided; the dots of flowers are larger, and proceed not from a roundish scale, but from an oblong white narrow valve or chink.*
1. Filicula fontana minor. Raub. pin. 358.
2. Filix saxatilis omnium minima elegantissima. Plukenet Phyt. tab. 89. fig. 3.
 Old walls and clefts of rocks. P.

* * *Leaves almost doubly winged.*

- Wood
Phlegopteris
- POLYPODY. Leaves almost doubly winged; lower little leaves bent back in pairs; united by a four-cornered little wing.—*Filix minor Britannica, pediculo pallidior, alis inferioribus decursum spectantibus.* Ray's Syn. 122.
 Clefts of moist shady rocks. P.

- Sweet
Fragrans
- POLYPODY. Leaves almost doubly winged; spear-shaped. Little leaves crowded together; lobes blunt, ferrated; stalk chaffy—*Resembling Fern POLYPODY but much smaller.*
 In the clefts of moist rocks. P.

- Crested
Cristatum
- POLYPODY. Leaves almost doubly winged; little leaves egg-shaped; lobes rather blunt, sharply ferrated towards the point—*The flowers in this species are upon the upper, not upon the lower little leaves.*
1. Filix mas ramosa, pinnulis dentatis. Gerard. 1129. Ray's Syn. 124.
2. Little leaves very elegantly ferrated.
Filix montana ramosa minor argute denticulata. Ray's Syn. 124.
 Woods, heaths, and shady places. P.

POLYPODY.

* * * *Leaves doubly winged.*

POLYPODY. Leaves doubly winged; wings blunt, a little Fern scolloped; stalk chaffy—*Flowers kidney-shaped; six or seven on Filix mas. each wing.*

Filix mas vulgaris. Park. 1036. Ray's Syn. 120.

Filix mas non ramosa dentata. Baub. pin. 258.

Filix mas non ramosa, pinnulis latis dentis minutim dentatis Gerard. 1129.

Male Polypody. Male Fern.

Woods heaths and stony places. P.

The Siberians boil it in their ale, and admire the flavour of it.

POLYPODY. Leaf doubly winged; little wings spear-shaped, with winged clefts; sharp—*Flowers egg-shaped, somewhat Filix femina fringed, solitary.*

Filix mas non ramosa, pinnulis angustis raris profunde dentatis Gerard. 1130. Ray's Syn. 121.

Female Polypody.

POLYPODY. Leaves doubly winged; wings crescent-shaped, fringed and toothed; stalk beset with flat stiff hairs. Prickly
Aculeatum

1. *Filix mas aculeata major. Baub. pin. 358.*

Common

Filix mas non ramosa, pinnulis latis auriculatis spinosis. Gerard. 1130. Ray's Syn. 121.

It sometimes varies with and without ears. *Ray.*

2. With narrow leaves.

Narrow leaved

Filix aculeata major, pinnulis auriculatis crebrioribus foliis integris angustioribus. Ray's Syn. 121. Hudson.

3. With a kind of woolliness on the leaf.

Woolly. Huds.

Filix mas aculeata nostras, alis expansis muscosa lanugine asperfa. Plukenet Phyt. tab. 180 fig. 1.

POLYPODY. Leaves doubly winged; wings crescent-shaped, fringed and toothed, the upper ones divided into lobes at the base; stalk beset with flat stiff hairs. Lobatum

Filix lonchitidi affinis. Ray's Syn. 121.

Polypodium lobatum, Hudson 390.

In shady places. P.

POLYPODY. Leaves doubly winged; little leaves and wings spear-shaped; distant from each other; teeth tapering to a point.

Filix fontana major, seu Adiantum album filicis folio. Baub. pin. 351.

Filix pumila saxatilis altera. Ray's Syn. 122.

Stony hills. P.

POLYPODY.

Brittle
Fragile

POLYPODY. Leaves doubly winged ; little leaves distant from each other ; little wings circular ; cut at the edges—*Flowers in large, black numerous spots.*

Common

1. Stem slender and brittle.

Filix saxatilis caule tenui fragile. Ray's Syn. 125.

Maiden hair
Hudl.

2. Wings divided like *Cow-weed.*

Adiantum nigrum pinnulis cicutarie divifura. Ray's Syn. 126.

Dry stony places. P.

* * * * *Leaves more than doubly compound.*

Branched
Dryopteris

POLYPODY. Leaves more than doubly compound ; little leaves growing by threes ; doubly winged.

Filix saxatilis ramosa, maculis nigris punctata. Baub. pin. 358.

Filix ramosa minor. Ray's Syn. 125.

Filix pumila saxatilis prima Clusii. Park. 1043.

Dryopteris Tragi. Gerard. 1135.

Dry stony places. P.

The Fern Moth feeds upon the different species.

404 SPLEENWORT. 1178 Asplenium.

FLOWERS disposed in straight lines on the under surface of the leaf.

* *Leaf simple.*

Harts-tongue
Scolopendrium

SPLEENWORT. Leaves simple ; betwixt heart and tongue-shaped ; very entire. Stalks hairy.

Phyllitis. Gerard. 1138. Ray's Syn. 116.

Phyllitis, seu Lingua Cervina vulgaris. Park. 1046

Lingua Cervina Officinatum. Baub. pin. 353.

Moist shady rocks, and in the mouths of wells. P.

* * *Leaf with winged clefts.*

Common
Ceterach

SPLEENWORT. Leaves with winged clefts ; lobes alternate, running into one another ; blunt. The under surface of the leaf is covered with scales in such a manner that the flowers are scarce discernible.

Asplenium five Ceterach. Gerard. 1138. Park. 1046. Ray's Syn. 118.

Ceterach Officinatum. Baub. pin. 354.

On old walls and clefts of moist rocks. P.

SPLEEN-

* * * *Leaves winged.*

SPLEENWORT. Leaves winged. Wings circular; scol- Maiden-hair
loped.—*Stalk glossy, black. Roots black; fibrous. Flowers in* Trichomanoides
three, four, or five rows,

Trichomanes. *Park. 1051. Ray's Syn. 119,*

Trichomanes seu Polytrichum officinarum. *Baub. pin. 356.*

Trichomanes mas. *Gerard. 1146.*

Common Maidenhair.

On old walls and shady stony places. P.

SPLEENWORT. Leaf winged. Wings inversely egg-Sea
shaped; serrated; hunched towards the end, and blunt; wedge- Marium
shaped at the base.—*Stalks shining; almost black.*

Filix marina anglica. *Park. 1045.*

Filicula petræa fœmina, seu Chamæfilix marina anglica.
Gerard. 1143.

Chamæfilix marina anglica. *Ray's Syn. 119.*

Sea Maidenhair, Sea Fern.

On rocks near the Sea. P.

* * * * *Leaves doubly compound.*

SPLEENWORT. Leaves alternately doubly compound. White
Little leaves wedge-shaped and slightly scolloped—*Flowers in* Rutamuraria
two or three rows.

Ruta muraria. *Baub. pin. 356. Gerard. 1144. Ray's Syn. 122.*

Ruta muraria seu Salvia Vitæ. *Park. 1050.*

White Maidenhair.

Clefts of rocks. P.

SPLEENWORT. Leaves almost triply winged; little leaves Black
alternate; wings spear-shaped jagged and serrated—*The dust is* Adiantum ni-
the colour of Saffron. Stalks black; glossy. Flowers in whitish grum
rows; from three to seven together.

Adiantum nigrum Officinarum. *Ray's Syn. 126.*

Adiantum nigrum vulgare. *Park. 1046.*

Adiantum foliis longioribus pulverulentis, pediculo nigro.
Baub. pin. 356.

Onopteris mas. *Gerard. 1127.*

1. There are some varieties in the shape of the little leaves. Some
being broader and others narrower. *Ray's Syn. 127.*

Black Maidenhair.

Old walls and moist shady rocks. P.

SPLEEN-

FLOWERS INCONSPICUOUS.

Green

Trichomanes

Ramosum

SPLEENWORT. Leaves doubly winged: lobes inversely egg-shaped and scolloped; lower little leaves the smallest.—*Leaf winged; wings circular. lopped at the base. Hudson 385.*

Trichomanes ramosum. Ray's Syn 119.

Trichomanes fœmina. Gerard. 1146.

Trichomanes ramosum majus et minus. Baub. pin. 336.

Asplenium viride. Hudson. 385.

Green Maidenhair.

Moist rocks. P.

405 BRAKES. 1174 Pteris.

FLOWERS disposed in a line, along the edge of the leaf on the under side.

Common

Aquilina

BRAKES. Leaves more than doubly compound. Little leaves winged; wings spear-shaped; the lowermost with winged clefts; the upper ones smaller—*The roots extend so deep into the earth as not to be destroyed by burning the surface, or by the Plough. When cut transversely there is a faint resemblance of the Imperial Eagle; from which circumstance Linnaeus has named it the P. Aquilina or Eagle Brakes.*

Filix fœmina. Gerard. 1128. Ray's Syn. 124 vulgaris. Park. 1037.

Filix ramosa major, pinnulis non dentatis. Baub. pin. 357.

Small

1. Smaller than the above.

Filicula saxatilis ramosa maritima nostras. Ray's Syn. 125.

Female Fern.

Woods and heaths. P. August. (2) on rocks near the sea, and on walls.

The root dried, powdered, and given in doses of half an ounce, is a secret to kill the Tape-worm, and is supposed to be no less efficacious in killing other Worms—A tolerably pure alkaly is obtained from the ashes. The common people in many parts of England mix the ashes with water and form them into balls: these balls are afterwards made hot in the fire and then used to make lye for scouring linen—It makes a very durable thatch; and is an excellent litter for Horses and Cows. Where coal is scarce, they use it to heat ovens and to burn limestone; for it affords a very violent heat. In the more inhospitable climates, bread is made of the roots.—The Fern Moth feeds upon it.

406 MAIDENHAIR. 1180 Adiantum.

FLOWERS disposed in oval spots, under the ends of the leaves, which are bent back upon them.

MAIDEN-

MAIDENHAIR. Leaves doubly compound; little leaves True alternate. Wings wedge-shaped; divided into lobes and placed upon footstalks.— *Capillus Veneris*

Adiantum foliis Coriandri. Bauh pin. 355.

Adiantum verum, seu Capillus Veneris verus. Park, 1049.

Capillus Veneris verus. Gerard. 1144. Ray's Syn. 123.

On rocks. P.

MAIDENHAIR. Leaves more than doubly compound; Shining little leaves alternate. Wings diamond-shaped; cut at the edges; Trapeziforme with flowers upon both surfaces.—

Adiantum majus Coriandri folio, adianto vero affine, pediculo pallide rubente, Ray's Syn. 124.

Adianto vero affinis minor Scotica, folio obtuso, saturate viridi. Ray's Syn. 124.

On rocks in Scotland.

407 GOLDILOCKS. 1181 Trichomanes.

EMFAL. Turban-shaped, single, upright; rising from the very edge of the leaf.

Shaft bristle-shaped; terminating the Capsule.

GOLDILOCKS. Leaves almost doubly winged; wings alternate, crowded together, divided into lobes; strap-shaped. *Pyxidiferum*

Filix humilis repens, foliis pellucidis et splendentibus, caule alato. Ray's Syn. 127. tab. 3. fig. 3-4.

On dripping rocks. P.

GOLDILOCKS. Leaves winged. Wings oblong; forked; Tunbridge running along the stem; toothed.—*The seed like globules are produced betwixt two leafy valves.*

Adiantum petraeum perpusillum anglicum, foliis bifidis, trifidisque. Ray's Syn. 123.

In clefts of moist rocks. P. August.

408 PEPPERGRASS. 1183 Pilularia.

Barren Flowers like dust, in a line on the under side of the leaf.

Fertile Flowers at the root.

CAPSULE globular; with four cells, containing many seeds.

PEPPER-

Globular
Globulifera

PEPPERGRASS. Stem creeping. Leaves upright; slender.—

Pilularia palustris juncifolia. *Dillenius.* 538. tab. 79. fig. 1.

Graminitolia palustris repens, *vasculis granorum Piperis æmulis.* *Ray's Syn.* 136.

Pillwort. Peppermoss.

In grounds that have been overflowed, especially in a sandy soil. P. June—September.

409 QUILLWORT. 1184 Isoetes.

Barren Flowers solitary; within the base of the inner leaves.

EMPAL. *Scale* heart-shaped; sharp; sitting.

BLOSS. None.

CHIVE. *Thread* none. *Tip* roundish, with one cell.

Fertile Flowers solitary, within the base of the outer leaves of the same plant.

EMPAL. As above.

BLOSS. None.

POINT. *Seedbud* egg-shaped, and together with the *Shaft* and *Summit* concealed within the leaf.

S. VESS. *Capsule* somewhat egg-shaped, with two cells; concealed within the base of the leaf.

SEEDS. Numerous; globular.

Mountain
Lacustris
Long leaved

QUILLWORT. Leaves jointed; awl-shaped; semi-cylindrical.—

1. Leaves long and slender.

Calamaria folio longiore et graciliore. *Dillenius.* 541. tab. 80. fig. 2.

Subularia lacustris seu calamistrum herba aquatica alpina. *Ray's Syn.* Ed. 1. p. 210. tab. 2.

Subularia fragilis folio longiore et tenuiore. *Ray's Syn.* 307.

Short-leaved.
Hb.

2. *Merlin's Grass* with short thick leaves.

Calamaria folio brevioris crassioris. *Dillenius.* 541. tab. 80. fig. 1.

Subularia vulgaris erecta folio rigidissimo. *Ray's Syn.* 306.

Flexible.
Hb.

3. With more flexible leaves.

Subularia repens folio minus rigido. *Ray's Syn.* 306.

Leaves the same with the former variety but more flexible.
At the bottom of lakes upon mountains.

410 CLUBMOSS. 1185 Lycopodium.

Barren Flower at the base of the leaves; sitting.

EMPAL. *Veil* none.

CHIVE. *Tip* kidney-shaped; with two valves; sitting.

Fertile Flower on the same plant.

EMPAL. *Cup* with four leaves.

POINT. None.

SEED. Without seed-lobes; growing to the empale-
ment.

CLUBMOSS. Leaves scattered, terminating in threads. Common. Spikes cylindrical, growing generally two on a footstalk—*Though* Clavatum sometimes three, or only one.

Lycopodium vulgare pilosum anfragosum et repens. Dillenius 441. tab. 58. fig. 1.

Lycopodium. Ray's Syn. 107.

Muscus terrestris clavatus. Baub. pin. 360.

Muscus clavatus, seu Lycopodium. Gerard. 1562. Park. 1307.

Wolf's claw.

On heaths and mountains. P. July.

In Sweden they form it into mats or baffes, which lye at their doors to clean shoes upon.

CLUBMOSS. Leaves scattered; fringed; spear-shaped. Prickly Spikes single; at the ends of the branches; leafy.—*Capsules* at the Selaginoides Base of the lower leaves, four together: each containing a large solid seed; but above these, upon the same stem are others containing four seeds. Tips round, of a yellowish colour.

Selaginoides foliis spinosis. Ray's Syn. 106. Dillenius 460. tab. 68. fig. 1.

In bogs, and in wet places on mountains. P. July—August—September.

CLUBMOSS. Leaves scattered; very entire; spikes at the Marth ends of the branches; leafy—Single; upright. Stem creeping. Inundatum

Lycopodium palustre repens, Clava singulari. Dillenius 452. tab. 62. (61) fig. 7.

Muscus terrestris repens, clavis singularibus foliosis erectis. Ray's Syn. 108.

Moist heaths. P. July.

Fir
Selago

CLUBMOSS. Leaves scattered; pointing eight different ways. Stem forked; upright. Branches all of the same height. Flowers scattered. *The fertile flowers evidently shew us the nature of the flowers of Mosses.*

Selago vulgaris, abietis rubræ facie. *Dillenius.* 435. tab. 56. fig. 1.

Selago foliis et facie abietis. *Ray's Syn.* 106.

Muscus erectus ramosus saturate viridis. *Baub. pin.* 560.

On heaths and mountains in the clefts of rocks. P. August.

The common people use a decoction of it to kill lice upon Cows and Swine. Taken inwardly it purges.

Wells
Annotinum

CLUBMOSS. Leaves scattered, pointing five different ways; a little serrated. Stem jointed at every year's shoot. Spikes at the ends of the branches; smooth; upright—Single; without foot-stalks; branches contracted at the joints.

Lycopodium elatius Juniperinum, clavis singularibus sine pediculis. *Dillenius* 455. tab. 63. fig. 9. *Ray's Syn.* 107.

On high mountains. P. July.

It is made into busses.

Mountain
Alpinum

CLUBMOSS. Leaves pointing four different ways; tiled; sharp. Stems upright; cloven; spikes sitting; cylindrical.—*When fully grown it becomes yellow.*

Lycopodium Sabinæ facie. *Dillenius.* 445. tab. 58. fig. 2. *Ray's Syn.* 108.

Muscus clavatus cupressiformis. *Park.* 1309.

Muscus clavatis foliis Cupressi. *Baub. pin.* 350. *Gerard.* 1562.

In wet places on mountains. P. August—September.

411 BOG MOSS. 1187 Sphagnum.

Barren Flowers on very short foot-stalks.

EMPALE. *Tip* none.

BLOSS. None except a membrane of short duration betwixt the receptacle and the tip.

CHIVE. *Tip* globular; mouth very entire; covered with a blunt *Lid*.

RECEPT. *Excrecence* bordered. imperfect; under the tip.

Fertile Flower hitherto undiscovered.

BOGMOSS. Branches bent downwards.—*White, or reddish.* Grey
Tips reddish brown, nearly globular. Palustre

1. Leaves egg-shaped ; with thicker branches. *Common*

Sphagnum palustre molle deflexum, squamis cymbiformibus.

Dillenius. 240. tab. 32. fig. 1.

Sphagnum cauliferum et ramosum palustre molle candicans,
reflexis ramulis, foliolis latioribus. Ray's Syn. 104.

2. Leaves awl-shaped with finer branches. *Finer*

Sphagnum palustre molle deflexum, squamis, capillaceis.

Dillenius 243. tab. 32. fig. 2.

Sphagnum cauliferum et ramosum palustre molle candicans,
reflexis ramulis foliolis angustioribus. Ray's Syn. 104.

In turfy bogs. P. July—August.

BOGMOSS. Somewhat branched ; upright.—*Of a beautiful* Green
green. Tips egg shaped. Alpinum

Sphagnum subulatum viridissimum, capsulis ovatis. Dillenius.

244. tab. 32. fig. 3.

Bogs on mountains. August—September—October.

BOGMOSS. Branched ; creeping. Tips on the sides of the Creeping
 branches pointing one way.—*Hairy.* Arboreum

Sphagnum heteromallum polycephalum. Dillenius. 248. tab.

32. fig. 6.

Sphagnum cauliferum et ramosum minus hirsutum, capitulis
crebris pilosis per ramulorum longitudinem adnascantibus. Ray's
Syn. 105.

Trunks of trees. Nov.—Dec.

412 EARTHMOSS. 1189 Phascum.

Barren flower nearly sitting, or on a very short fruit-
 stalk.

EMPAL. *Fil* none.

CHIVE. *Tip* oval ; with a fringed mouth ; covered with
 a *Lid* tapering to a point.

RECEPT. *Excrescence* none.

Fertile flower hitherto undiscovered,

Oval

1.
Acaulon
GreaterEARTHMOSS. Without a stem; tips sitting; leaves egg-shaped; sharp—*tiled*.1. *Sphagnum acaulon bulbiforme, majus.* *Dillenius* 251. tab. 32. fig. 11.*Sphagnum acaulon, foliis in bulbi formam congestis, majus.* *Ray's Syn.* 105.

Lesser

2. *Sphagnum acaulon bulbiforme, minus.* *Dillenius* 252. tab. 32. fig. 12.*Sphagnum acaulon, foliis in bulbi formam congestis, minus.* *Ray's Syn.* 105.

Sandy ditch-banks and gardens. A. Jan.—Feb.

Awl shaped

2.
SubulatumEARTHMOSS. Without a stem; tip sitting; leaves bristly; awl-shaped, open.—*Outer leaves flat, spread upon the ground; inner leaves pale, terminating in brown hairs.*OBS. *This and the preceding species, have been sometimes observed to have a veil, and might therefore with propriety be ranged with the THREADMOSES.*

Lesser

1. *Sphagnum acaulon trichoides.* *Ray's Syn.* 105. *Dillenius* 251. tab. 32. fig. 1c.

Greater

2. Considerably larger than the preceding.

Sphagnum acaulon maximum, foliis in centro ciliaribus. *Dillenius* 253. tab. 32. fig. 13.(1.) Moist sandy roads and heaths. (2.) Sandy meadows, and on rocks. A. Mar.—April.—(2.) Sept.—Oct. *Dill.*)

Upright

3.
Pedunculatum
Had.EARTHMOSS. Without a stem; tip inversely egg-shaped; supported by a fruit-stalk.—*Leaves egg-shaped, transparent.* *Hudson* 397.*Bryum ampullaceum, foliis serpylli pellucidis collo crassore.* *Dillenius* 344. tab. 44. fig. 4.*Bryum erectis gigartinis capitulis foliis serpylli pellucidis obtusis.* *Ray's Syn.* 67. tab. 3. fig. 2.

Moist heaths. May.

Bottle

4.
Ampullaceum
Dill.

EARTHMOSS ?

PHASCUM ?

Without a stem; tip oblong, supported by a fruit-stalk; leaves awl-shaped,—open. Shoots upright, mostly simple, but sometimes divided towards the top. Tip upright, contracted at the mouth, somewhat resembling that of the Bottlemoss. From *Dillenius*.*Bryum ampullaceum, foliis et ampullis angustioribus.* *Dillenius* t. 41. f. 5.On heaths, and in old rotten cow-dung. *Dill.*

EARTH-

EARTHMOSS. Stem creeping; tips on the sides of the Creeping branches, sitting.—

Sphagnum vermiculare repens, capsulis intra foliorum squa- Repens
morum alas minimis. *Dillenius* 550. tab. 85. f. 16.

Trunks of trees. P. April.

413 BOTTLEMOSS. 1191 *Splachnum*.

Barren flower on a fruit-stalk.

EMPALE. *Veil* conical; smooth; shedding.

CHIVE. *Tip* cylindrical. *Mouth* opening with eight little reflected teeth; without a ring.

RECEPT. Membranaceous, coloured, very large; under the tip.

Fertile flower on a different plant.

EMPALE. *Common*, star-like; at the ends of the shoots or branches; formed of several little awl-shaped leaves pointing in rays and tiled.

POINT. Many; in the centre; all of the same height; short; coloured.

* *Bottle Earthmoss.*

BOTTLEMOSS. Barren flower with its excrescence; shaped Common like a glass bottle; excrescence inversely egg-shaped—*Yellow*.
leaves egg-shaped; sharp; transparent. Tips upright. ^{1.} Ampullaceum

Bryum ampullaceum, foliis Thymi pellucidis, collo strictiore.

Dillenius. 343. t. 44. f. 3.

Bryum erectis gigartinis capitulis, foliis serpilli pellucidis acutis. *Ray's Syn.* 93.

Linnæus observes that it is never found but where the dung of animals has lain, and conjectures that it may be only a variety of the Fountain MARSHMOSS.

Turf bogs. March—April.

FLOWERS INCONSPICUOUS.

414 HAIRMOSS. 1192 Polytrichum.

Barren flower on a fruit-stalk from the top of the plant.

EMPAL. *Veil* conical; generally woolly; as long as the tip.

CHIVE. *Tip* oblong; mouth fringed; covered with a circular membrane. *Lid* conical.

RECEPT. *Excrescence* a border under the tip.

SCALYBULB. A cylindrical sheath; much shorter than the fruit-stalk.

Fertile flower on a distinct plant.

EMPAL. *Common*, coloured; tiled; expanding in form of a little rose.

POINT. Thread-shaped; jointed.

Common
1.
Commune
Greater

HAIRMOSS. Stem simple; tip a long solid square, or parallel-pipedon—*Veil* yellow.

1. Leaves serrated.

Polytrichum quadrangulare vulgare, yuccæ foliis serratis. *Dillenius*. 420. t. 54. f. 1.

Polytrichum vulgare et majus capsula quadrangulari. *Ray's Syn.* 90.

Polytrichum aureum majus. *Baub. pin.* 359. *Park.* 1052.

Muscus capillaris, seu *adiantum aureum majus*. *Gerard.*

1559.

Great golden Maidenhair.

Lesser

2. Leaves shorter and less flexible.

Polytrichum quadrangulare, juniperi foliis brevioribus et rigidioribus. *Dillenius*. 424. t. 54. f. 2.

Polytrichum montanum et minus, capsula quadrangulari. *Ray's Syn.* 90.

Polytrichum aureum medium. *Eaub. pin.* 356.

Downy

3. Leaves smaller, and terminating in fine soft hairs.

Polytrichum quadrangulare minus, juniperi foliis pilosis. *Dillenius*. 426. t. 54. f. 3.

Woods, heaths, marshy and barren ground. P. May.

1. In marshy spongy ground. 2. In wet ground on mountains. 3. In very dry sandy situations. *Dillenius*. Hence probably their different appearances.

When the Laplanders sleep all night in the woods, they make themselves beds of this moss; and the Bears collect it for the same purpose. Squirrels and birds use it in making their nests.

HAIR-

HAIRMOSS. Stem very much branched; fruit-stalks at the Mountain ends of the branches—*Tips oval*.

Polytrichum alpinum ramosum, capsulis e summitate ellip-^{2.} Alpinum
ticis. *Dillenius*. 427. t. 55. f. 4.

Polytrichum urnigerum, var. *Hudson*. 400.
Mountains.

HAIRMOSS. Stem very much branched; fruit-stalks from Branched the base of the leaves—but near the ends of the branches. *Tips* ^{3.} Urnigerum
when ripe hanging down; hardly any Excrecence at the base.

Polytrichum ramosum, setis ex alis urnigeris. *Dillenius*. 427.
t. 55. f. 5.

Mountains. June—Aug.

415 MARSHMOSS. 1193 Mnium.

Barren flower on a fruitstalk.

EMPAL. *Veil* oblong; tapering to a point; oblique;
smooth.

CHIVE. *Tip* roundish: *Mouth* surrounded with a fringed
ring, and covered with a *Lid* somewhat conical.

RECEPT. *Excrecence* none.

Fertile Flower generally on a distinct plant.

EMPAL. *Common* composed of leaves disposed in form of
a star.

POINT. Many, in the centre, collected into a ball.

MARSHMOSS. Stem simple; leaves egg-shaped—*Veil* *yel-* Transparent
low above, but white below. Fertile flowers on short fruit-stalks, ^{1.} Pellucidum
at the ends of the branches.

1. Mnium serpilli foliis tenuibus et pellucidis. *Dillenius*. 252. *Common*
t. 51. f. 2.

Mnium minus non ramosum, angustioribus et pellucidis foliis.
Ray's Syn. 78.

Smaller, leaves much narrower.

2. Mnium minimum non ramosum angustissimis et pellucidis *Small. Hud.*
foliis. *Ray's Syn.* 78.

Wet shady places, heaths and marshes. Feb. Apr. July.

Fountain
2.
Fontanum

MARSHMOSS. Stem simple, with crooked joints—*Tips large; roundish; on long foot-stalks. Fertile flowers on the same plant; and sitting at the ends of the branches.*

Bryum palustre, scapis teretibus stellatis, capsulis magnis subrotundis. Dillenius. 340. t. 44. f. 2.

Marsh Bryum. *Hudson. 404.*

Near springs and in bogs. July—Aug.

Wherever this grows, a spring of fresh water may be found without much digging.

Common
3.
Palustre

MARSHMOSS. Stem forked; leaves awl-shaped—*Stem purplish. Fertile stars yellow. Tips purple, growing from the forks of the stem. Veils yellowish.*

Mnium majus, ramis longioribus bifurcatis. Dillenius. 233. t. 31. f. 3. Ray's Syn. 78.

Turf bogs. P. June. July.

Branched
4.
Hud.
Ramosum

MARSHMOSS. Stem somewhat branched; upright. Fertile flowers on fruit-stalks rising from the base of the leaves.—*Numerous. Hudson. 403.*

Mnium majus, minus ramosum capitulis pulverulentis crebrioribus. Ray's Syn. 78. Dillenius. 235. t. 31. f. 4.

In marshes.

Obs. *The barren flowers do not appear to have been discovered.*

Upright
5.
Androgynum

MARSHMOSS. Stem branched. Barren and fertile flowers on the same plant—*on fruit-stalks from the ends of the branches; upright. Fruit-stalks of the barren flowers tallest. Veils white.*

Mnium perangustis et brevibus foliis. Ray's Syn. 78. Dillenius. 230. t. 31. f. 1.

Woods and moist shady places; but sometimes in dry sandy places, and heaths. March.

Yellow
6.
Hygrometricum

MARSHMOSS. Stemless. Tips nodding; veil four edged; bent back—*Tips inversely egg-shaped; bright yellow.*

Bryum bulbiforme aureum, calyptra quadrangulari, capsulis pyriformibus nulantibus. Dillenius. 407. t. 52. f. 75.

Bryum aureum, capitulis reflexis pyriformibus, calyptra quadrangulari, foliis in bulbi formam congestis. Ray's Syn. 101.

Muscus capillaris, five adiantum aureum minus. Gerard. 1559.

Polytrichon aureum minus. Park. 1032.

Yellow Bryum. *Hudson. 416.*

Woods, heaths, garden walks, walls, old trees, decayed wood, and where coals or cinders have been laid. April.

If the fruit-stalk is moistened at the base with a little water or steam, the head makes three or four revolutions: if the head is moistened it turns back again.

MARSH-

MARSHMOSS. Stem forked; tips upright; on fruit- Purple stalks rising from the forks of the stem; leaves keel-shaped.

Purpureum

Purple Bryum. *Hudson.* 412.

1. Ends of the branches star-like; fruit-stalks purple; leaves spear-shaped; tips scored when dry. *Common*

Bryum tenue stellatum, setis purpureis. *Dillenius.* 386. t. 43. f. 51.

Bryum perangustis foliis et cauliculis, foliis et crebrioribus et circa summities magis congestis, capitulis erectis e furculis annotinis egredientibus. *Ray's Syn.* 99.

2. Ends of the branches star-like; fruit-stalks rising from near the root; not much longer than the branches; tips edged at the mouth with a long tufted fringe. Leaves spear shaped. *Bearded. Hud.*

Bryum unguiculatum et barbatum, tenuius et stellatum. *Dillenius.* 384. t. 48. f. 48.

3. Leaves awl-shaped; distant. Fruit-stalks not much longer than the branches; tips edged with a long tufted fringe. *Slender. Hud.*

Bryum tenue barbatum, foliis angustioribus et rarioribus. *Dillenius.* 385. t. 48. f. 49.

Bryum perangustis foliis et cauliculis foliis rarioribus cinctis, capitulis erectis, e furculis annotinis egredientibus. *Ray's Syn.* 99.

4. Leaves awl-shaped; distant. Fruit-stalks very long; red; tips long; scored when dry. *Fine leaved. Hud.*

Bryum polytrichoides palustre, setis longioribus rubris sericeis. *Dillenius.* 387. t. 49. f. 52.

Bryum perangustis crebrioribus foliis, capitulis erectis longiusculis, pediculis e furculis annotinis nascentibus. *Ray's Syn.* 99.

(1.) Heaths, roads, and walls. (2.) On the ground. (3.) Loose sandy soil, in gravelly pastures. (4.) Marshes. March, April. *Hudson.* (1.) January, February, April, May. *Dillenius.* (3.) Spring and Autumn. *Dillenius.*

MARSHMOSS?

MNIUM?

Black-headed

8.

Lateral

Dill.

Stem somewhat branched. Lateral branches flowering at the ends. Tips upright. Leaves keel-shaped - Tips oblong; blackish. Ends of the branches star-like. From *Dillenius.*

Bryum palustre brevifolium, capsulis nigricantibus. *Dillenius.* t. 47. f. 39.

Yorkshire, in bogs.

MARSH-

Pale
9.
Scuraccum

MARSHMOSS. Tips upright; lids thread-shaped; as long as the tips—*Stems upright; very short. Threads blackish purple; zigzag. Tips cylindrical; lead coloured; Lid and Veil thread-shaped; longer and narrower than in any of the other species.*

Pale Bryum. *Hudson. 409.*

Common

1. Leaves egg-shaped; of a pale green.

Bryum stellare nitidum pallidum, capsulis tenuissimis. *Dillenius. 381. t. 48. f. 44.*

Bryum trichoides exile pallidum, erectis capitulis e furculis annotinis egredientibus. *Ray's Syn. 95.*

Red. Hud.

2. Leaves awl-shaped, red; lids and veils rather short.

Bryum stellare lacustre foliis rubris capillaceis. *Dillenius. 382. t. 48. f. 45.*

Obs. *This variety seems to have little affinity to the Pale Marsh-moss.*

(1.) Ditch banks and walls. Winter and spring. March.

(2.) In bogs on mountains. August.

Starry
10.
Cirrarium

MARSHMOSS. Leaves rolling back as they become dry—*Tips upright.*

Starry Bryum. *Hudson. 409.*

True

1. Ends of the branches star-like. *Tips mostly single. Lids needle-shaped.*

Bryum cirratum et stellatum, tenuioribus foliis. *Dillenius. 379. t. 48. f. 42.*

Bryum trichoides exile, erectis capitulis in pediculis longioribus rubris. *Ray's Syn. 97.*

Short-leaved.
Hud.

2. Ends of the branches star-like; leaves very short.

Bryum perangulis et brevissimis foliis, extremitatibus stellatis. *Ray's Syn. 98.*

Many headed?
Hud.

3. Tips numerous; incorporated—*Ends of the branches star-like when dry.*

Bryum cirratum, fetis et capsulis brevioribus et pluribus. *Dillenius. 378. t. 48. f. 41.*

Bryum trichoides erectis sublongis capitulis, extremitatibus per necitatem stellatis. *Ray's Syn. 98.*

Obs. *Is not this variety, a species of the THREADMOSS, and nearly allied to the Twisted THREADMOSS?*

1. Ditch-banks, walls, roofs, and old pales. (3) Mountains, March. *Hud.* (1) April. *Dill.* (3) Aut. *Dill.*

MARSH.

MARSHMOSS. Leaves egg-shaped, tapering to a point; Long-leaved transparent. Fruit-stalks rising from near the root. Tips nodding—*Oblong*. ¹¹ Annotinum

Bryum annotinum lanceolatum pellucidum, capsulis oblongis pendulis. Dillenius. 395. t. 50. f. 68.

Long-leaved Bryum. *Hudson. 414.*

Woods and moist shady places. March. In summer says *Dillenius*.

MARSHMOSS. Tips pendant. Fruit-stalks somewhat fer- Rough pentine. Shoots undivided. Leaves rough at the edges—*Spear-shaped*. Tips large; oblong, inclining to oval. ¹² *Hornum*

Rough Bryum. *Hudson. 415.*

1. *Bryum stellare, hornum sylvarum, capsulis magnis nutantibus. Dillenius. 402. t. 51. f. 71.* *Swan's Neck.*

Bryum nitidum capitulis majoribus reflexis, calyptra imum virgente, pediculis oblongis e cauleculis nevis egredientibus. Ray's Syn. 102.

2. With narrower leaves.

Bryum nitidum foliis serpilli angustioribus, medium. Ray's Syn. 103.

Narrow leaved. Hud.

Woods and heaths. April—May.

MARSHMOSS. Tips pendant. Leaves egg-shaped; keeled; Bristly bristly at the ends. Fruit-stalks very long—*rising from near the root*. Tips oblong. ¹³ *Capillare*

Capillary Bryum. *Hudson. 414.*

1. *Bryum foliis latiusculis congestis, capsulis longis nutantibus. Dillenius. 392. t. 50. f. 67.* *Common*

Bryum capitulis reflexis, foliolis latiusculis congestis. Ray's Syn. 100.

2. Leavebroader; transparent.

Bryum capitulis reflexis foliis congestis latioribus et pellucidis. Ray's Syn. 101.

Broad leaved. Hud.

Woods and heaths in a gravelly soil. March.

MARSHMOSS. Tips pendant. Veiis bowed back. Leaves Spear-leaved transparent—*spear-shaped*. ¹⁴

Bryum pendulum hornum molle, foliis et lanceolatis et gramineis. Dillenius. 401. t. 50. f. 70. *Crudum*

Spear-leaved Bryum. *Hudson. 415.*

Fens in Cambridgeshire. Sum. *Dillenius. Mar. Hudson.*

MARSHMOSS. Tips pendant: turban-shaped. pillar Golden thread-shaped. Fertile flowers bristly.— ¹⁵

Bryum trichoides aureum, capitulis pyriformibus nutantibus. Pyriforme Dillenius 391. t. 50. f. 60.

Golden Bryum. *Hudson 412.*

On rocks. April—May.

MARSH-

- Hair** MARSHMOSS. Veil woolly.—*Open; larger than the tip.*
16 Shoot *undivided.*
Polytrichoides Dwarf Polytricum. *Hudson 400.*
Dwarf 1. Tips roundish; leaves entire.
 Polytricum nanum, capsulis subrotundis galeritis, aloe folio non ferrato. *Dillenius 428. t. 57. f. 6.*
 Polytricum minus, capsulis subrotundis, calyptra quasi lacera coronatis. *Ray's Syn. 91.*
Serrated 2. Tips oblong; leaves ferrated.
 Polytricum parvum, aloe folio ferrato, capsulis oblongis. *Dillenius. 428. t. 55. f. 7.*
 Moist heaths. From October to March.
- Thyme leaved** MARSHMOSS. Fruit-stalks incorporated. Leaves expanding; transparent—
17 Thyme-leaved Bryum. *Hudson 417.*
Serpillifolium 1. Fruit-stalks incorporated. Leaves very entire; inversely egg-shaped; blunt; dotted.
Dotted Bryum pendulum serpillifolia rotundiore pellucido, capsulis ovatis. *Dillenius 416. t. 53. f. 81.*
Punctatum Bryum nitidum serpilli rotundis et latioribus foliis pellucidis. *Ray's Syn. 102.*
Smooth 2. Fruit-stalks incorporated. Leaves very entire; betwixt spear and egg-shaped. Tips oblong; pointed. *From Dillenius.*
Glabrum Bryum pendulum, serpillifolio longiore pellucido, capsulis oblongis cuspidatis. *Dillenius 486 t. 53. f. 80.*
Hud. 3. Bryum pendulum foliis variis pellucidis capsulis ovatis. *Dillenius 413. t. 53. f. 79.*
Pointed 4. Fruit-stalks incorporated. Leaves spear-shaped; sharp; disposed in form of a rose.—*Tips egg-shaped.*
Cuspidatum Bryum stellare roseum majus capsulis ovatis pendulis. *Dillenius 411. t. 52. f. 77.*
Refy Bryum roseum majus, foliis oblongis. *Ray's Syn. 92.*
Frutiferum 5. Smaller than the preceding; tips and fruit-stalks longer.
 Bryum stellare roseum pendulum minus, capsulis et setis longioribus. *Dillenius 412. t. 52. f. 78.*
Starry Bryum roseum minus, foliis subrotundis. *Ray's Syn. 92.*
Stellatum Muscus parvus stellaris. *Baub. pin. 361. Gerard. 1563. Park. 1708.*
Hud. 6. Fruit-stalks incorporated. Leaves oblong; waved.
Waved Bryum dendroides polycephalon, phyllitidis folio undulato pellucido; capsulis ovatis pendulis. *Dillenius 410. t. 52. f. 76.*
Undulatum Bryum nitidum foliis oblongis undulatis, capitulis cernuis artusculam referens. *Ray's Syn. 103.*
 Woods and moist heaths. March—April. (4. and 5. Winter Hill)

MARSH-

MARSHMOSS. Leaves pointing three different ways; open; ^{Triangular} betwixt awl and spear-shaped: keeled—Stems woolly; ¹⁸ *about the length of ones finger or longer; growing close together and forming a turf.* Branches several, rising from the end of the shoot; three square, open. Leaves small; distant; tapering to a point; when young of a pale green, but when old brown. Fruit-stalks single, purple; very long; rising from the end of the shoot. Tips either upright, oblique, or pendant; very blunt at the end; yellow. Veil awl-shaped. Fertile Flowers star-like; at the ends of the branches; on the same plant with the barren flowers.

Triangular Bryum. *Hudson* 416.

1. Tips oblong, somewhat swollen.

Bryum annottinum palustre, capsulis ventricosis pendulis. ^{Swollen}

Dillenius 404. t. 51. f. 72.

Bryum nitidum foliis serpilli angustioribus, majus. *Ray's Syn.*

102.

2. Tips oblong, narrower; branches upright, slenderer; leaves ^{Long-stalked} more thinly set. ^{Hud.}

Bryum lanceolatum bimum, setis et capsulis longis pendulis.

Dillenius 405. t. 51. f. 73.

Bryum nitidum foliis serpilli pellucidis angustis, capitulis tumidis nutantibus, præaltis pediculis furculis annotinis egredientibus. *Ray's Syn.* 102.

3. Tips inversly egg-shaped. Stems shorter. Branches upright. ^{Pear-headed} Leaves thinly set. ^{Hud.}

Bryum palustre complicatum rubens, capsulis turbinatis pendulis. *Dillenius* 406. t. 51. f. 74.

Bryum nitidum rubens capitulis reflexis, foliis angustis pellucidis, cauliculis proliiferis. *Ray's Syn.* 102.

Bogs and marshes. April.

MARSHMOSS. Leaves pointing from two opposite lines; Fern ¹⁹ very entire; Fertile flowers on short fruit-stalks, at the ends of the ^{Trichomanis} branches.

Mnium trichomanis facie, foliolis integris. *Ray's Syn.* 79.

Dillenius 230.

Wet shady places. February—March.

MARSHMOSS. Leaves pointing from two opposite lines; Forked ²⁰ cloven.—Fertile flowers on short fruit-stalks, at the ends of the ^{Fistula} branches.

Mnium trichomanis facie, foliolis bifidis. *Ray's Syn.* 79. *Dillenius* 237. t. 31. f. 6.

Shady places. Feb. March, April.

MARSH-

Liver

Jungermannia

MARSHMOSS. Leaves pointing from two opposite lines, with little ear-like appendages underneath—*Leaves alternate; transparent; somewhat egg-shaped; smooth; embracing the stem.*

Lichenastrum alpinum purpureum foliis auritis et cochleari-formibus. Dillenius 479. t. 69. f. 1.

Lichenastrum trichomanis facie, prælongum, foliis concavis, unam partem spectantibus. Ray's Syn. 112.

Rivulets and marshy places on mountains.

416 THREADMOSS. 1194 Bryum.

Barren Flower on a fruit-stalk, rising from the end of the shoots.

EMPAL. Veil oblong; tapering to a point; oblique; mostly smooth.

CHIVE. Tip roundish, or somewhat oblong; the mouth edged with a fringed ring, and covered with a conical Lid.

RECEPT. Excrecence none.

SCALY BULB. None; but a *Tubercle* at the base of the fruit-stalk.

Obs. *The smooth tip'd hairy; the pear-headed and the beard-leis Threadmoss, have no fringe round the mouth of the tip.*

* *Tips sitting.*

Hairy

Apocarpum

THREADMOSS. Tips sitting, at the ends of the branches. Veil very small. Stem branched; *Leaves* terminating in hairs; —*Tips inclosed by the leaves.*

Red-tip

Dill. and Lin.

1. Of a dark green; tips red; oblong: mouth fringed.

Sphagnum subhirsutum obscure virens, capsulis rubellis. Dill. 245. tab. 32. fig. 4.

Small-tip

2. Leaves membranaceous at the ends. Tips greenish, or yellowish; nearly round, but flattened at the top. Mouth not fringed.

Sphagnum nodosum hirsutum incanum. Dillenius 246. t. 32. f. 5.

Sphagnum caulisferum et ramosum saxatile hirsutum incanum capitulis virentibus. Ray's Syn. 105.

Obs. *In Dillenius's figure there is no appearance either of a Veil, or Fringe round the mouth of the Tip. May not this variety therefore be really a species of Bogmoss as Dillenius has described it?*

On stones and trees. (1) Nov. Dec. Jan. (2) Nov. Dec.

THREAD-

THREADMOSS. Tips *mostly* sitting; dispersed over the branches. Veils scored, or covered with hairs pointing upwards—*Nearly allied to the HAIRMOSS, but has no excrescence under the tip.* Stem branched. Scored
2
Striatum

Tree Polytrichum. Hudson 401.

1. Tips sitting, at the ends and sides of the branches. Leaves *Greater* awl-shaped.

Polytrichum bryi ruralis facie, capsulis sessilibus majus. *Dillenius* 430. t. 55. f. 8.

Polytrichum capsulis subrotundis pediculis brevissimis infidentibus, calyptra striata, arboreum ramosum, majus. *Ray's Syn.* 91.

2. Tips sitting, at the ends and sides of the branches. Leaves *Lesser* egg-shaped. Smaller than the preceding.

Polytrichum bryi ruralis facie, capsulis sessilibus minus. *Dillenius* 431. t. 55. f. 9.

Polytrichum capsulis subrotundis, pediculis brevissimis infidentibus, calyptra striata, arboreum et terrestre minus ramosum et breve. *Ray's Syn.* 91.

3. Tips sitting, mostly at the ends of the branches. Leaves *Slender* betwixt egg and spear-shaped.

Polytrichum capsulis sessilibus, foliis brevibus, rectis, carinatis. *Dillenius* 432. t. 55. f. 10.

4. Tips on short fruit-stalks, mostly from the ends of the branches. *Curled* veils pointed and exceedingly hairy. Leaves awl-shaped and curled when dry.

Polytrichum capillaceum crispum, calyptris acutis pilosissimis. *Dillenius* 433. t. 55. f. 11.

Polytrichum capsulis oblongo rotundis, calyptris pilosissimis. *Ray's Syn.* 91.

(1. 3.) Rocks. (2.) Trees, stones, walls and earth. (4) Woods. February—March.

* * *Tips on fruit-stalks upright.*

THREADMOSS. Tips upright; spherical—*brown*. Leaves *Round-headed* *bristle-shaped*; Fruit-stalks *solitary*; *purplish* towards the lower part. Veil *very sharp*; *small*; *oblique*; *red*. 3
Pomiforme

Bryum capillaceum, capsulis sphaericis. *Dillenius* 339. tab. 44. fig. 1.

Bryum trichoides virefcens, erectis majusculis capitulis multifloribus. *Ray's Syn.* 91.

On heaths and sandy banks. March.

THREAD-

Pear-headed
4
Pyriforme

THREADMOSS. Tips upright, inversely egg-shaped; veil awl-shaped; shoots without stems; leaves egg-shaped, without hairs.

Bryum serpillifolium pellucidum, capsulis pyriformibus Dillenius. 345. tab. 44. fig. 6

Bryum parvum erectis pyriformibus majusculis capitulis, foliis serpylli pellucidis. Ray's Syn. 93.

Sandy meadows and ditchbanks. March.

Obs. *The mouth of the tip does not appear to be fringed from Dillenius's figure.*

Conic
5
Extinctorium

THREADMOSS. Tip upright; oblong; smaller than the veil which is flexible; and equal at the base,—and cut into six segments which are bent inwards.

Smaller

1. *Bryum calyptra extinctorii forma minus. Dillenius. 349. tab. 45. fig. 8.*

Bryum erectis capitulis, calyptra laxa conica, foliis Serpylli pellucidis angustioribus. Ray's Syn. 92.

Larger

2. Larger and more branched.

Bryum calyptra extinctorii figura, majus et ramosum. Dillenius 350. tab. 45. fig. 9.

Sandy meadows. Feb. (1. Nov.—Dec. Dill.)

Awl-shaped
6
Subulatum

THREADMOSS. Tips upright, awl-shaped. Shoots without stems—*Veil broken.*

Bryum capsulis longis subulatis. Dillenius 350. tab. 45. fig. 10.

Bryum erectis longis et acutis falcatis capitulis, calyptra subfusca, foliis serpylli pellucidis. Ray's Syn. 92.

Woods and moist ditch-banks. March. (Jan.—Feb. Dill.)

Grey
7
Rurale

THREADMOSS. Tips nearly upright. Leaves bent back. —*Tips bent like the claw of a bird. Leaves terminating in hoary hairs.*

Bryum rurale unguiculatum hirsutum elatius et ramosius. Dillenius. 352. tab. 45. fig. 12.

Bryum majus erectis falcatis capitulis, foliis latiusculis exantibus, in pilum canescentem destinentibus. Ray's Syn. 94.

Walls, roofs, and trunks of trees. March.

When this takes to grow upon thatched buildings so as to cover the thatch, instead of lasting but about ten years it will endure for an age.

THREAD-

THREADMOSS. Tips upright. Leaves terminating in Wall hairs, nearly straight, shoots simple; growing close together, and forming a turf.—*Leaves terminating in hoary hairs.* ⁸ Mura

Bryum tegulare humile pilosum et incanum. *Dillenius.* 355. tab. 45. fig. 14.

Bryum minus erectis minus falcatis capitulis, foliis latiusculis congestis in pilum canescentem desinentibus. *Ray's Syn.* 94.

Roofs, tiles, stones, and walls. Nov.—March.

THREADMOSS. Tips upright. Leaves not hairy; trans- Ground parent; nearly straight. Shoots mostly simple, growing close together, and forming a turf.—*Green.* From *Dillenius.* ⁹ Humile

Bryum humile, pilis carens, viride et pellucidum. *Dillenius* ¹⁰ Dill. 356. tab. 45. fig. 15.

Bryum murale. *Hudson.* 406.

On banks of earth, near Streatham in Surry, and Oxford. Winter. *Dill.*

THREADMOSS. Tips nearly upright. Fruit-stalks incor- Broom porated. Leaves pointing one way; bowed back; stem de- ¹⁰ Scoparium clining.—

Bryum reclinatum, foliis falcatis, scoparum effigie. *Dillenius.* 357. tab. 46. fig. 16.

Bryum erectis capitulis angustifolium, caule reclinato. *Ray's Syn.* 95.

Heaths, woods, and shady banks. March—April.

THREADMOSS. Tips nearly upright. Fruit-stalks mostly Curled single. Leaves spear-shaped; keeled; waved; expanding; fer- ¹¹ Undulatum rated.—*Tips reddish.*

Bryum phyllitidis folio rugoso acuto, capsulis incurvis. *Dill.* 350. tab. 46. fig. 18.

Bryum capitulis oblongis rubentibus, foliis oblongis angustis pellucidis rugosis. *Ray's Syn.* 95.

Woods and shady ditchbanks. Dec.—Jan.

THREADMOSS. Tips rather upright. Lid arched. Leaves White upright; tiled. Shoots branched.—*Leaves subulif.* Lid ex- ¹² Glaucum *actly awl-shaped.* Tips sometimes rising from short lateral branches.

Bryum albidum et glaucum fragile majus, foliis erectis, setis brevibus. *Dillenius.* 352. tab. 46. fig. 20.

Bryum trichoides erectis capitulis, albidum fragile. *Ray's Syn.* 97.

High commons. (Aug.—Sept. *Dill.*) Oct.—Nov. *Hud.*

Transparent

¹³
Pellucidum
Erect

THREADMOSS. Tips rather upright. Leaves bowed back; sharp. Stem hairy.—

1. Leaves bowed back.—*Tips brown.**Bryum palustre pellucidum, capitulis et foliis brevibus recurvis. Dillenius 364. tab. 46. fig. 23.**Bryum erectis capitulis subrotundis fuscis, foliis minoribus pellucidis rugosis. Ray's Syn. 96.*

Bent

2. Leaves bent back.

Bryum erectis capitulis brevibus, foliis reflexis. Dillenius 363. tab. 16. fig. 24.

Marshes and moist shady places.

Mountain

¹⁴
AciculareTHREADMOSS. Tips upright. Lid needle-shaped. Leaves upright; some of them pointing one way—*Bristles yellow; Veils very sharp; Lid long and slender like a needle. Tips mostly rising from short lateral branches.**Bryum montanum hemiheterophyllum, operculis acutis. Dillenius 366. tab. 46. fig. 25.**Bryum hypnoides erectum montanum, erectis capitulis acutis. Ray's Syn. 94.*

On mountains. August.

Soft

¹⁵
Flexuosum

THREADMOSS. Tips upright; leaves bristle-shaped; fruit-stalks zigzag.—

*Bryum pilosum molle, setis intortis. Dillenius 373. t. 47. f. 23.**Bryum trichoides capitulis erectis, pediculis intortis tenuibus virentibus. Ray's Syn. 97.*

On rocks.

Heath

¹⁶
Heteromallum
PencilTHREADMOSS. Tips upright; leaves bristle-shaped; pointing one way—*Very long. Tips roundish.*1. *Bryum heteromallum. Dillenius 375. tab. 47. fig. 37.**Bryum trichoides reclinatorum cauliculis capitulis erectis acutis. Ray's Syn. 96.*

Cluster

Hud.

2. Leaves curled inwards; in distinct tufts; shorter. Tips oblong.

Bryum pilosum interrupte falcatum. Dillenius 376. tab. 47. fig. 38.

(1.) Heaths, and ditchbanks. Oct (2) Heaths and mountains. Aug.

THREAD-

THREADMOSS. Tips upright; leaves bristle-shaped, with-^{Twisted}
out hairs, twisted back when dry.—*Fruit-stalks purplish; tips*¹⁷
cylindrical; lid with a crest of tawny hairs. Tortuosum

Bryum cirratum, setis et capsulis longioribus. *Dillenius* 3 7.
tab. 48. fig. 40.

Bryum trichoides longifolium crassiusculis cauliculis, capitulis
erectis aduncis acutis. *Ray's Syn.* 98.

On mountains. August—Oct.

THREADMOSS. Tips upright. Mouth not fringed. ^{Beardless}
Leaves keeled; open. *Hudson* 409.—*Rising from near the ends*¹⁸
of the branches. Imberbe

Bryum tenue, imberbe et pallidum, foliis crebrioribus. *Dil-*
lenius 382. tab. 48. fig. 46. Hud.

Bryum perangustis foliis et cauliculis, foliis crebrioribus, et
circa extremitates magis congestis; capitulis erectis, ad sum-
mitatem magis egredientibus. *Ray's Syn.* 99.

On sandy and grassy places, ditch-banks and walls. March.
(*Winter Dillenius.*)

THREADMOSS. Tips upright; oblong; on fruit-stalks rising ^{Bird's-claw}
from the base of the leaves; leaves upright, pointed, keeled,—¹⁹
Of a yellowish green. Stem upright somewhat branched. Fruit- Unguiculatum
stalks short, rising from the base of the leaves, (but at the ends of the
branches) Hudson 410.—*Tips upright but the veils oblique, which*
gives it some resemblance to the claw of a bird. Mouth of the tip
edged with a tufted fringe. Hud.

Bryum unguiculatum et barbatum, furculis in summitate
crassioribus. *Dillenius* 383. tab. 48. fig. 47.

Bryum angustis viridibus foliis, capitulis erectis brevibus pe-
diculis infidentibus, calyptra falcata vel avium unguiculos
referente. *Ray's Syn.* 90.

On walls and sandy places. March.

THREADMOSS. Tips upright; roundish; ending in a ^{Brown}
sharp point.—*When the lid falls off the Tip appears lopped; inversely*²⁰
egg-shaped, and of a yellowish red. Truncatum

1. *Bryum exiguum creberrimis capsulis rufis.* *Dillenius* 347. *Many-headed*
tab. 45. fig. 7.

Bryum exiguum erectis parvis subrotundis creberrimis capitulis
rufis, foliolis serpilli angustis pellucidis. *Ray's Syn.* 94.

2. Tips larger; brownish.

Heded. Hud.

Bryum parvum erectis subrotundis majusculis capitulis
subfuscis, foliis serpilli pellucidis. *Ray's Syn.* 93.

Meadows and pastures. February.

Hasselquist observing this plant growing in great abundance upon the walls of Jerusalem, conjectures it may be the Hyssop of Holy Writ, wherein Solomon is said to have known all plants, from the Cedar of Lebanon even unto the Hyssop, that groweth upon the wall.

Green

²¹
Viridulum

THREADMOSS. Tips upright; egg-shaped. Leaves spear-shaped, tapering to a point, open but somewhat tiled.—*Of a bright green. Tips yellowish; fringed. Leaves somewhat curled when dry.*

Bryum capillaceum breve, pallide et late virens, capsulis ovatis. *Dillenius*. 380. tab. 48. fig. 42.

Bryum trichoides exile, erectis capitulis in pediculis brevissimis. *Ray's Syn.* 97.

Sandy ditch-banks, and sides of hedges, and on moist heaths. Dec.—Feb.

Dwarf

²²
Paludosum

THREADMOSS. Without any stem. Leaves bristle-shaped. Tips very blunt; somewhat expanding—*roundish; brown; leaves not curled when dry. Extremely small if not the smallest of all the Mosses.*

Bryum trichoides acaulon palustre minimum, setis et capsulis brevissimis. *Dillenius* 387. tab. 49. fig. 53.

Marthes. March.

Heath-leaved

²³
Ericæfolium
Dill.

THREADMOSS. Without a stem. Leaves awl-shaped; blunt; open. Tips oblong; upright.—*covered with a pointed Lid, and edged at the mouth with a long upright tufted fringe.* From *Dillenius*.

Bryum acaulon, ericæ tenuifoliæ. *Dillenius* tab. 49. fig. 55.

Near Wigmore, Herefordshire. Nov. *Dill.*

Woolly

²⁴
Hypnoides

THREADMOSS. Tips upright. Shoot nearly upright. Lateral branches short; bearing flowers.—*Tips covered with a Lid, mostly pointed and edged at the base with little teeth.*

Many-beaded

1. Tips small; fruit-stalks short. Stem not much divided. Lateral branches numerous; leaves ending in a woolly hair.

Bryum hypnoides polycephalon lanuginosum montanum. *Dillenius* 372. tab. 47. fig. 32.

Bryum hypnoides capitulis plurimis erectis, lanuginosum. *Ray's Syn.* 97

Small-beaded
Hud.

2. Tips small; fruit-stalks short. Stem pretty much branched; branches long; nearly of an equal length; bearing flowers at the ends. Leaves awl shaped.

Bryum hypnoides alpinum setis et capsulis exiguis. *Dillenius* 370. tab. 47. fig. 29.

3. Tips

5. Tips large; pointed; lids entire at the base. Stem branched. *Green*
Leaves ending in a short woolly hair; green.
Bryum hypnoides hirsutic virefcens fasciculare alpinum.
Dillenius 370. tab. 47. fig. 28.
 4. Tips long: mouth edged with a long tufted fringe: on long *Heati-like*
fruit-stalks rising from the upper part of the shoot. Shoot not
much branched. Leaves betwixt awl and egg-shaped.
Bryum hypnoides ericæ facie, capsulis barbatis alpinum.
Dillenius. 371. tab. 47. fig. 31.
Bryum hypnoides capitulis plurimis erectis, non lanuginosum.
Ray's Syn. 478.
 5. Tips large; lids blunt at the end. Shoot branched. Leaves *Blunt-headed*
awl-shaped. *Hud.*
Bryum hypnoides, alpinum operculis obtusis. *Dillenius* 371.
tab. 47. fig. 30.
 6. Tips rather large. Shoots mostly branched; but sometimes *Common*
simple. Leaves awl-shaped; ending in a woolly hair. *Hud.*
Bryum hypnoides, hirsute canescens, vulgare. *Dillenius* 368.
tab. 47. fig. 27.
Bryum trichoides erectis capitulis, lanuginosum. *Ray's Syn.* 97.
 7. Tips large. Veils black; pointed. Shoot somewhat drooping. *Water*
leaves egg-shaped sharp. *Hud.*
Bryum hypnoides aquaticum calyptris nigris acutis. *Dillenius*
367. tab. 46. fig. 26.
Bryum hypnoides repens aquaticum, erectis capitulis acutis.
Ray's Syn. 94.
On mountains. Dec. (2) Aug. (3) Sept.
Obs. *Future observation may determine whether several of these*
are not distinct species—The fourth and fifth will probably prove so.
- THREADMOSS.** Tips upright; fruit-stalks crowding to- *Whorled*
gether when dry. Leaves hairy. Shoots all of the same height. *25*
Leaves as if surrounding the stem in whorls. *Verticillatum*
1. *Bryum pilosum verticillatum.* *Dillenius.* 374. tab. 47. fig. 35. *Common*
Bryum trichoides brevifolium angustis cauliculis, capitulis
erectis parvis et minus aduncis. *Ray's Syn.* 98.
 2. Leaves not in whorls; branches longer; of a bright green. *Begmes*
Bryum pilosum, Sphagni subulati facie. *Dillenius* 374. tab. *Hud.*
47. fig. 34.
Mountains and rocks.

Water
26
Æstivum

THREADMOSS. Tips upright, roundish; growing from the base of the leaves or branches. Leaves awl-shaped; distant.—*Stem forked. Fruit-stalks sometimes rising from the divisions of the stem, and sometimes from the ends of the branches.*

Bryum palustre æstivum conservæ facie. Dillenius 375. tab. 47. fig. 36.

Bryum angustissimis foliis crebrioribus, capitulis erectis brevibus pediculis e furculis novis et longis nascentibus. Ray's Syn. 90.

Bryum palustre. Hudson. 411.

Marshes. March.

Obs. *This seems to have no small affinity to the slender, and fine-leaved purple MARSHMOSS.*

Twin
27.
Geminatum
Dill.

THREADMOSS. Tips nearly upright; two growing together. Shoots forked—*Tips at the ends of the branches; joined when dry. Lids short. Blunt. From Dillenius.*

Bryum parvum, furculis et setis geminatis. Dillenius tab. 49. fig. 70.

On hedges in gardens, and on walls. Feb—March.

* * * *Tips pendant.*

Silver
28
Argenteum

THREADMOSS. Tips pendant; shoots cylindrical, tiled, smooth.—*Silvery; Leaves minute, numerous, triangular, compact; terminating in a short hair; Tips blackish; Lid short. Fruit-stalks rising from the base of the shoots.*

Silky

1. *Bryum pendulum julaceum argenteum et sericeum. Dillenius 392. tab. 50. fig. 62.*

Bryum capitulis subrotundis reflexis, cauliculis teretibus argenteis. Ray's Syn. 100.

Green

2. Shoots green; leaves egg-shaped; keeled—*Some of the branches with starlike extremities.—2. Whether it may not be a species of Marshmoss?*

Bryum pendulum, furculis teretibus viridibus. Dillenius 394. tab. 50. fig. 63.

Roofs, walls, (1) sunny exposures) (2 garden walls. Dec.

Pincushion
29
Pulvinatum

THREADMOSS. Tips roundish, fruit-stalks bent back. Leaves hairy.—*Fruit-stalks green, short, crooked, so that the tips almost touch the leaves.*

Bryum orbiculare pulvinatum hirsutie canescens, capsulis immerfis. Dillenius 395. tab. 50. fig. 65.

Bryum trichoides hirsutie canescens, capitulis subrotundis reflexis, in perbrevis pediculis. Ray's Syn. 100.

Walls and tiles of houses. April.

THREAD-

THREADMOSS. Tips pendant. Leaves spear-shaped, Matted tapering to a bristly point. Fruit-stalks extremely long.—From the base of the shoots red about half way up; of a yellowish green above. ³⁰ Cæspiticiu

Bryum pendulum ovatum cæspiticiu et pilosum, seta bicolori. *Dillenius* 396. tab. 50. fig. 66.

Bryum trichoides capitulis reflexis, pediculis ina medietate rubris, summa luteo-virentibus. *Ray's Syn.* 100.

Old walls, roofs, and gravelly places. March. (Winter and spring. *Dill.*)

THREADMOSS. Tips pendant; awl-shaped. Fruit-stalks Bristly rising from the ends of the shoots;—Shoots mostly undivided, of a fine green. Veils shedding. Lids blunt. ³¹ Virens

Bryum trichoides late virens, capitulis cernuis oblongis. *Dill* *Dillenius* tab. 50. fig. 61.

Woolwich-heath, and Snowdon. Spr. and Sum. *Dill.*

THREADMOSS. Tips pendant; somewhat globular. Shining Leaves sharp alternate—transparent. Tips pale red, or flesh coloured. ³² Carneum

1. *Bryum lanceolatum pellucidum. capulis rotundis pendulis, carneis.* *Dillenius* 400. tab. 5. fig. 69. ³² Flesh-coloured

Bryum nitidum, foliis serpilli pellucidis angustioribus reflexis; capitulis subrotundis carnei coloris. *Ray's Syn.* 102.

2. Tips green.

Bryum nitidum perangustis serpillinis pellucidis foliis, reflexis capitulis subrotundis virentibus. *Ray's Syn.* 102. ³³ Green. Hud.

Wet places; drains in meadows. March.

THREADMOSS. Tips pendant oblong: leaves spear-shaped (egg-shaped tapering to a point. Hud.) keeled. Shoots branched. Fruit-stalks rising from the base of the leaves. ³³ Alpine Hud

Bryum hypnoides pendulum sericeum, coma insigni atro-rubente. *Dillenius* 394. t. 50. f. 64.

On the ground, upon rocks.

THREADMOSS. Tips nodding, oblong. Leaves awl-shaped. Stem undivided; fruit-stalk rising from the middle of the stem.—Tips red. ³⁴ Simplex

Bryum rubrum. *Hudson* 413.

Bryum trichoides, capulis rubris cernuis. *Dillenius* 390. t. 50. f. 59.

In grassy places. Wint.

417 FEATHERMOSS. 1195 Hypnum.

Barren Flower on a fruit-stalk, rising from the sides of the shoots, and from the base of the leaves.

EMPALE. *Veil* oblong; smooth; oblique.

CHIVE. *Tip* rather oblong; *Mouth* fringed; covered with a *Lid*; tapering to a point.

RECEPT. *Excrescence* none.

SCALY BULB. Scaly on the sides of the shoots, surrounding the base of the *Fruit-stalk*.

Fertile Flower on the same plant, at the base of the leaves.

EMPALE. *Common*, none.

POINT. Little feather-like shoots rising single from the base of the leaves.

* *Leaves winged.*

New-leaved

1
Taxifolium

FEATHERMOSS. Leaf very simple; winged; spear-shaped. Fruit-stalks rising from the base.—*Tips oblong; drooping.*

Hypnum taxiforme minus, basi capsulifera. *Dillenius*. 265. t. 34. f. 2.

Hypnum repens filicifolium non ramosum, pediculis brevioribus ad radicem egredientibus. *Ray's Syn.* 88.

Woods, and shady banks. Feb. (April. *Dill.*)

Double-rowed

2
Denticulatum

FEATHERMOSS. Leaf simple, winged; with a double row of little leaves on each side.—*Fruit stalks rising from the base.*

Hypnum denticulatum pinnatum, pinnulis duplicatis recurvis. *Dillenius*. 266. t. 34. f. 5.

Hypnum repens filicifolium non ramosum, pediculis et capitulis longioribus ad radicem egredientibus, foliolis utrinque duplicatis. *Ray's Syn.* 88.

Woods, and moist shady places on the ground. April.

Fern

3
Bryoides

FEATHERMOSS. Leaf very simple; winged; spear-shaped. Fruit-stalks rising from the end—*This Moss is small, but extremely elegant. The tips are crowned with a lid of a lively red, and edged at the mouth with an elegant fringe of the same colour.*

Hypnum taxiforme exiguum, versus summitatem capsuliferum. *Dillenius* 262. t. 34. f. 1.

Hypnum repens filicifolium non ramosum, pediculis brevibus versus solum summitatem egredientibus. *Ray's Syn.* 88.

Shady places and ditch-banks. Feb. (Wint. and Spr. *Dill.*)

FEATHER.

FEATHERMOSS. Leaf winged ; branched ; trailing. Wood
 Little leaves sharp. Fruit-stalks rising from the middle. *Hud-*⁴
son 419. *Sylvaticum*
Hud.

Hypnum denticulatum pennatum, pinnulis simplicibus rec-
 tioribus. *Dillenius* 267. t. 34. f. 6.

Hypnum repens filicifolium ramosum, pedunculis et capitulis
 longioribus e foliorum alis egredientibus, foliolis utrinque sim-
 plicibus. *Ray's Syn.* 88.

Woods ; at the roots of trees, and moist shady places on the
 ground. April.

FEATHERMOSS. Leaf winged ; branched ; upright. Upright
 Fruit-stalks rising from the middle.—

Hypnum taxiforme palustre ramosum majus et erectum. *Dill.* *Adiantoides*⁵
 264. t. 34. f. 3.

Hypnum erectum filicifolium ramosum, pinnulis acutis. *Ray's*
Syn. 87.

In marshy grounds near water. March.

FEATHERMOSS. Leaf winged ; branched : little leaves Flat
 tied ; sharp ; folded ; compressed.—*Glossy.* Tips *egg-shaped.* *Complanatum*⁶

1. *Hypnum pennatum compressum et splendens*, capsulis ovatis. *Fern*
Dillenius 268. t. 34. f. 7.

Hypnum repens filicifolium ramosum, ramulis appressis et
 majus complanatis. *Ray's Syn.* 87.

2. Little leaves blunt ; resembling Maidenhair. *Maiden-hair.*
Hud.

Hypnum pennatum trichomanoides, splendens ramosum.
Dillenius 269. t. 34. f. 8.

Hypnum erectum filicifolium ramosum pinnulis obtusis. *Ray's*
Syn. 87.

On trunks of trees, and (2) sometimes on the ground. Mar.
 —April.

* * *Shoots fraggling.*

FEATHERMOSS. Shoots branched : branches somewhat Shining
 winged. Little leaves dotted—*Glossy* ; *egg-shaped.* ⁷

Hypnum pennatum aquaticum lucens, longis latisque foliis. *Lucens*
Dillenius 270. t. 34. f. 10.

Hypnum repens filicifolium ramosum, foliolis majoribus
 magisque crebris. *Ray's Syn.* 88.

Wet shady places, and in ditches.

FEATHER.

Waved
8
Undulatum

FEATHERMOSS. Shoots branched; branches somewhat winged. Little leaves waved and folded,—*sharp at the ends. Tips oblong, point of the veins brownish yellow. Fruit-stalks longer than the branches.*

Hypnum pennatum undulatum, Lycopodii instar sparsum. Dillenius 271. t. 56. f. 11.

Hypnum repens crispum, cauliculis compressis, Lycopodii in morem per terram sparfis. Ray's Syn. 88.

In woods and shady ditches. May.

Curled
9
Crispum

FEATHERMOSS. Shoots branched; branches somewhat winged; little leaves waved; flat,—*blunt at the ends. Tips roundish. Fruit-stalks shorter than the branches.*

Hypnum pennatum undulatum crispum, setis et capsulis brevibus. Dillenius 273. t. 36. f. 12.

Hypnum repens crispum ramulis compressis, filicinorum more dispositis. Ray's Syn. 89.

Rocks, chalk-hills, and on the banks of the Thames. Mar.

Triangular
10
Triquetrum

FEATHERMOSS. Branches straggling; bowed backwards. Leaves egg-shaped; bent back; expanding—*of a pale green.*

Hypnum vulgare triangulum, maximum et pallidum. Dill. 292. t. 38. f. 28.

Hypnum repens, triangularibus majoribus et pallidioribus foliis. Ray's Syn. 80.

Woods and hedges. Feb.

Thready
11
Filiforme
Hed.

FEATHERMOSS. Shoots straggling; very much branched; branches thread-shaped. Tips oblique—*lid pointed.*

Hypnum sericeum ramosius et tenuius capsulis acuminatis. Dill. 327. t. 42. f. 62.

Hypnum repens trichoide terrestre, priori viridius et minus, capitulis cernuis minus tumidis. Ray's Syn. 84.

Green Hypnum. Hudson 421.

On trunks of trees; bones; and rotten-wood. Feb.

FEATHERMOSS. Branches straggling; partly creeping. Toothed leaves egg-shaped; sharp; pointed; tiled.—*Veil long, shining*¹²
Lid blunt. Rutabulum
 Common

1. *Hypnum dentatum vulgatissimum*, operculis obtusis. *Dill.*
 295. t. 38. f. 29.

Hypnum repens triangularibus angustioribus foliis. *Ray's*
Syn. 80.

2. Lids pointed and hooked like the beak of a bird. *Beak-beaded?*
Hypnum vulgare dentatum, operculis cuspidatis. *Dillenius* Hud.
 297. t. 38. fig. 30.

Hypnum repens, triangularibus minoribus foliis pediculis
 et capitulis brevioribus et tumidioribus, minus. *Ray's Syn.* 80.

3. Short; upright. Leaves short; narrow; set close together. *Marsh?*
Ray. Hud.

Hypnum palustre erectum breve, foliis brevibus angustis
 tenuibus confertis. *Ray's Syn.* 83.

Obs. Are not the two latter varieties distinct species?

Woods, (1. 2) and hedges; about the roots and trunks of
 trees. Heaths. Dec. (3.) marshes.

FEATHERMOSS. Branches straggling; shoot trailing. Butchers-
 Leaves egg-shaped; blunt; tiled—*keeled*. Tips *roundish*; oblique. Broom
Lids pointed; *sometimes hooked*. Branches *mostly upright*; *sometimes*¹³
cylindrical. From *Dillenius*. Ruscifolium
Dill.

Hypnum foliis rusciformibus, capsulis subrotundis. *Dillenius*
 t. 38. f. 31.

In rivulets and waters in Yorkshire. *Dill.*

FEATHERMOSS. Shoots straggling; trailing. Leaves *Yellow*
awl-shaped. Tips oblique. *Hudson* 491.

Hypnum sericeum, furculis longioribus et rectioribus, capsulis
incurvis. *Dillenius* 325. t. 12. f. 60. Lutescens
 Hud.

Chalk hills. Jan.—Feb.

FEATHERMOSS?

HYPNUM?

Water

¹⁵
 Fluitans
Dill.

Branches straggling, either floating or ascending. Leaves *awl-*
shaped; open.—No flowers appear to have been discovered, but
Dillenius has arranged it as a species of the *Feathermoss*. From
Dillenius.

Hypnum erectum, aut fluitans, foliis oblongis perangustis
 acutis. *Dill.* t. 38. f. 33.

In the bogs in Ireland. In a ditch going to Marston near
 Oxford. Hackney, and other places near London. *Dill.*

* * * Shoots

* * * *Shoots winged.*

Big
16
Filicinum
Curtis

FEATHERMOSS. Shoots winged ; little branches distant ; leaves tiled, bent inwards ; sharp—*pointing one way.*

1. *Hypnum repens filicinum crispum.* Ray's Syn. 85. Dill. 282. t. 36. f. 19.

Fine-leaved
Hud.

2. Leaves narrower, mostly straight : in some of the branches pointing one way.

Hypnum repens filicinum, trichoides palustre. Ray's Syn. 85. Dillenius 286. t. 35. f. 21.

Brown. Hud.

3. Tips bowed inwards.

Hypnum repens trichoides palustre vernum fuscum capitulis oblongis incurvis. Ray's Syn. 85.

Wet marshy places. March. (1) Sum. (2) early in the Spr. Dill.

Proliferous
17
Proliferum

FEATHERMOSS. Shoots proliferous ; nearly flat and winged ; fruit-stalks incorporated—*This species is of a very singular structure, one shoot growing out from the center of another. Veil yellow shining. Lid with a kind of long bill. Leaves not shining, sometimes of a yellowish, and sometimes of a deep green.*

Hypnum filicinum, tamarisci foliis minoribus non splendentibus. Dillenius 276. t. 35. f. 14.

Hypnum repens filicinum minus, luteo-virens. Ray's Syn. 86. Woods and heaths. Feb. Hud. (Aut.—March and April. Dill.)

This Moss covers the surface of the earth in the thickest woods through which the sun never shines, and where no other plant can grow.

Wall
18
Parietinum

FEATHERMOSS. Shoots nearly flat and winged, undivided for a considerable length ; fruit-stalks incorporated.—*Leaves shining. The old shoots do not branch out into new shoots as in the preceding species.*

Hypnum filicinum tamarisci foliis majoribus splendentibus. Dillenius 272. t. 25. f. 12.

Hypnum repens filicinum, veluti spicatum. Ray's Syn. 86.

Blacus filicinus major. Gerard. 1501. Park. 1509. Baub. pin. 360.

Woods and shady places. March.

Both this and the preceding species are used to fill up the chinks in the walls of wooden houses.

FEATHER

FEATHERMOSS. Shoots somewhat winged; drooping. Trailing
 Little branches remote; leaves egg-shaped; tips on crooked
 fruit-stalks.— ¹⁹ Prælongum

Hypnum filicinum, triangularibus parvis foliis, prælongum.

Ray's Syn. 80. *Dillenius.* 278. t. 35. f. 15.

Trunks of trees: rotten wood; and on the ground. Feb.—
 March.

FEATHERMOSS. Shoots winged. Little branches near
 together; bent back at the ends—*shining; yellowish.* ²⁰ Crested

Hypnum filicinum, cristam caespitem representans. *Dill.* ²⁰ *Crista Caespit-*
284. t. 36. f. 20. ²¹ *lis*

Muscus filicifolius luteus, folio crasso et undulato. *Ray's Syn.*

86. sub num. 32.

On walls and chalk cliffs.

FEATHERMOSS. Shoots winged; compressed. Leaves ²¹ Shrubby
 sharp; bowed inwards; tips nearly upright, egg-shaped.—*Leaves*
shining. *Hudson* 423. ²² Compressum

Hypnum filicinum sericeum, molle et pallidum mucronibus
 aduncis *Dillenius* 286. t. 36. f. 22. ²³ *Hed.*

On sticks and roots in woods. April.

FEATHERMOSS. Shoots winged; somewhat cylindrical; fir
 remote; unequal.—*Leaves egg-shaped yellowish.* Fruit-stalks ²²
from the middle of the rib of the shoot: single; purple; straight; as long as ²³ *Abicunum*
the shoot. Veil upright; awl-shaped; pale. Tips yellowish red, more
bowed in than any of the rest: edge of the mouth entire, with a
short open fringe within.

Hypnum lutescens, alis subulatis tenacibus. *Dillenius* 280. t.
 35. f. 17.

Hypnum repens filicinum trichoides montanum, ramulis re-
 retibus lutescentibus, non divitis. *Ray's Syn.* 80.

On hills.

FEATHERMOSS. Shoots winged; creeping. Branches ²³ Winged
 crowded together. Leaves tiled; awl-shaped. Tips upright.—
 On short fruit-stalks. ²⁴ Plumosum

Hypnum repens filicinum plumosum. *Ray's Syn.* 86. *Dillenius*
 280. t. 35. f. 16.

Trunks and roots of trees, brick-walls and tiles.

*** Leaves

* * * * *Leaves bent back.*

- Cypress**
²⁴
Cupressiforme
Curled
- FEATHERMOSS.** Shoots somewhat winged. Leaves pointing one way; bowed back; awl-shaped towards the points.—
1. *Hypnum crispum cupressiforme, foliis aduncis.* *Dillenius* 287. t. 37. f. 23.
Hypnum repens crispum cupressiforme. *Ray's Syn.* 89.
- Ground. Hud.**
2. *Hypnum repens trichoides terrestre, foliolis uno versu dispositis.* *Ray's Syn.* 85.
 In woods, at the roots of trees. Feb.
- Hooked**
²⁵
Aduncum
- FEATHERMOSS.** Shoots nearly upright; somewhat branched. Leaves pointing one way; awl-shaped; bowed back; branches hooked at the ends.
Hypnum palustre erectum summita tibus aduncis. *Ray's Syn.* 82 *Dillenius* 292. t. 37. f. 26.
 Marshy places. May.
- Scorpion**
²⁶
Scorpioides
- FEATHERMOSS.** Branches straggling; trailing; bowed back; leaves pointing one way, tapering to a point.—*Branches brown; hooked; and yellow at the ends.*
Hypnum scorpioides palustre magnum, Lycopodii instar sparsum. *Dillenius* 290. t. 37. f. 25.
 Marshes.
- Mountain**
²⁷
Viticulosum
- THREADMOSS.** Shoots creeping. Branches straggling; cylindrical. Leaves expanding; tapering to a point.—*Tips and Branches upright.*
Hypnum subhirsutum, viticulis gracilibus erectis, capsulis teretibus. *Dillenius* 307. t. 39. f. 43.
Hypnum repens trichoides arboreum majus, capsulis et furculis erectis, minus ramosis. *Ray's Syn.* 85.
 Stumps of trees; heaths, and chalk hills. March.
- Common**
²⁸
Squatrosom
Larger
Smaller
- FEATHERMOSS.** Branches straggling. Leaves spear-shaped, keeled, and almost folded; pointing five different ways, bent back—*Branches scurfy all over.*
1. *Hypnum repens, triangularibus reflexis foliis, majus.* *Ray's Syn.* 82. *Dillenius* 303. t. 39. f. 38.
 2. *Hypnum repens triangularibus reflexis foliis, minus.* *Ray's Syn.* 82. *Dillenius* 303. t. 39. f. 39.
 Moist Meadows.

FEATHER

FEATHERMOSS. Shoots creeping, branches crowded; Marish upright. Leaves egg-shaped; pointing one way. Tips nearly upright.— ²⁹ Palustre

Hypnum heterophyllum aquaticum, polycephallum, repens.
Dillenius 293. t. 37. f. 27.

Hypnum repens filicifolium ramosum ramulis surrectis et minus complanatis. *Ray's Syn.* 87.

Banks of rivers. Jan.—Feb.

FEATHERMOSS. Shoots taking root. Branches straggling; Ground upright. Leaves pointing one way. Tips roundish.— ³⁰

Hypnum loreum montanum, capsulis subrotundis. *Dillenius* Loreum 303. t. 39. f. 40.

Hypnum repens, furculis magis erectis, foliis reflexis longioribus cinctis, operculo capituli magno. *Ray's Syn.* 82.

Muscus terrestris vulgaris. *Gerard.* 1370. alter. *Park.* 1306.

On hills.

***** Shoots shrub-like; or the branches collected into bundles.

FEATHERMOSS. Shoots upright. Branches in bundles, Tree terminating; the shoot rather simple. Tips upright.—Leaves ³¹ shining; ^{Dendroides}

Hypnum dendroides sericeum, fetis et capsulis longioribus erectis. *Dillenius* 313. t. 40. f. 48.

Hypnum erectum arbusculum referens, ramulis subrotundis, confertim nascentibus. *Ray's Syn.* 81.

Moist woods. March.

FEATHERMOSS. Shoot upright. Branches in bundles; Foxtail terminating the shoot; sub-divided; tips rather nodding.—In ³² this species the stem-leaves stand open, but in the preceding they lie close to the stem. Leaves dark-green. ^{Alopecurum}

Hypnum dendroides obscurius, fetis et capsulis brevioribus nutantibus. *Dillenius* 315. t. 41. f. 49.

Hypnum palustre erectum, arbusculam referens, ramulis subrotundis. *Ray's Syn.* 81.

Woods, and moist shady places at the roots of trees. April.

***** Shoots nearly cylindrical.

FEATHERMOSS. Shoots straggling; cylindrical. Leaves Pendulous egg-shaped; sharp; open. Tips pendant. ³³

Hypnum dentatum curtispendulum, viticulis rigidis. *Dillenius* Curtispendu- 333. t. 43. f. 60. ^{lum}

Hypnum arboreum repens, capsulis reflexis, brevibus pediculis indentibus. *Ray's Syn.* 79.

Roots of trees and stony places. February.

FEATHER-

Meadow
34
Purum

Common

FEATHERMOSS. Shoots winged and scattered; awl-shaped. Leaves egg-shaped; blunt; approaching.—*Tips oblique; on long* Fruit-stalks.

1. *Hypnum cupressiforme vulgare*, foliis obtusis. *Dillenius* 309. t. 40. f. 45.

Hypnum terrestre erectum, ramulis teretibus, foliis inter rotunda et acuta medio modo se habentibus. *Ray's Syn.* 81.

Finer. Hud.

2. Branches slender and flatter; points of the leaves open.

Hypnum cupressiforme tenuius et compressius. *Dillenius* 312. t. 40. f. 47.

Hypnum longum erectum, foliis angustis caulibus appressis. *Ray's Syn.* 83.

Woods and pastures. February.

Genticulated
35
Illecebrum

FEATHERMOSS. Shoots and branches stragling; cylindrical; nearly upright; blunt.—*Leaves egg-shaped; tiled; whitish.*

Hypnum cupressiforme rotundius, vel illecebræ æmulum. *Dillenius* 311. t. 40. f. 46.

Hypnum terrestre erectum, ramulis teretibus, foliis subrotundis albo-virentibus cinctis. *Ray's Syn.* 81.

Heaths March, April.

White
36
Albicans
Dill.

FEATHERMOSS. Shoots and branches upright; cylindrical. Leaves awl-shaped; tips roundish; oblique.—*Leaves whitish.* From *Dillenius*.

Hypnum sericeum gracile albicans capsulis subrotundis. *Dillenius* t. 42. f. 67.

On a loose sandy soil, on heaths, and where little grass grows. *Dillenius*.

Floating
37
Riparium

FEATHERMOSS. Shoots cylindrical; branched. Leaves sharp; open; distant.—*Some of the Shoots are very long; others not more than an inch; very slender; red. Tips red; hooked; very short.*

Hypnum aquaticum, flagellis et teretibus et pennatis. *Dillenius* 308. t. 40. f. 44.

Hypnum ramosum fluitans pennatum. *Ray's Syn.* 81.

In rivers and on the banks of rivers. December—February.

Pointed
38
Cuspidatum.

FEATHERMOSS. Shoots scattered; the ends tapering to a point, formed by the edges of the leaves rolled inwards.—*Leaves egg-shaped; open; shining; of a pale yellowish green inclined to white.* Fruit-stalks long. Tips oblong; oblique. Lids blunt.

Hypnum palustre extremitatibus cuspidatis et pungentibus. *Dillenius* 300. t. 39. f. 34.

Hypnum repens palustre, foliis triangularibus per caules expansis, extremitatibus consolatibus et acuminatis. *Ray's Syn.* 82.

Marshy places. March.—April. (spring and summer. *Dill*)

* * * * * Shoots

***** Shoots crowded together.

FEATHERMOSS. Shoot creeping. Branches crowded; Silky upright. Leaves awl-shaped. Tips upright; oblong. *Lids* ³⁹ pointed. Leaves yellowish green, sometimes deep green. *Sericeum*

Hypnum vulgare fericeum recurvum, capsulis erectis cuspidatis. *Dillenius* 323. tab. 42. fig. 59.

Hypnum repens trichoides terrestre, luteo-virens, vulgare majus, capitulis erectis. *Ray's Syn.* 84.

On walls, trunks of trees and pastures. Dec.—Jan.

For a microscopic observation of its flowers, see Martyn's *Philos. Trans.* vol. x. p. 758.

FEATHERMOSS. Shoot creeping. Branches crowded; Velvet upright. Leaves awl-shaped. Tips somewhat nodding. ⁴⁰

1. *Hypnum velutinum*, capsulis ovatis cernuis. *Dillenius*, 326. *Common* ^{Velutium} tab. 42. fig. 61.

Hypnum repens trichoides terrestre viridius minus, capitulis tumidioribus cernuis. *Ray's Syn.* 84.

2. Smaller and shorter, and of a paler green.

Hypnum repens trichoides terrestre minimum et breve, capitulis tumidioribus cernuis. *Ray's Syn.* 84. ^{Small. Hud.}

Shady places and hedges. Feb.

FEATHERMOSS. Shoots creeping. Branches thread-shaped. Leaves hardly perceptible.—*Tips upright, oblong; on long fruit-stalks.* ⁴¹ Creeping

Hypnum trichoides serpens, setis et capsulis longis erectis. *Dillenius* 329. tab. 42. fig. 64. ^{Serpens}

Hypnum repens trichoides terrestre minimum, capitulis majusculis oblongis erectis. *Ray's Syn.* 85.

On the ground; in hedges; at the roots of trees, on old wood, stones, and bones. April.

FEATHERMOSS. Shoots upright; branched; bent inwards.—*Fruitstalks when ripe twisted like a rope.* Fertile flowers ⁴² Squirrel-tail on distinct shoots. Leaves shining. ^{Sciuroides}

Hypnum arboreum sciuroides. *Dillenius* 319. tab. 41. fig. 54.

Hypnum trichoides erectum, ramulis recurvis, obscuri coloris. *Ray's Syn.* 87.

Trunks of Trees. Feb.—April.

- Mousetail
43
Myosuroides
—Branches slender; pointed at the ends; tips oblique; leaves egg-shaped; sharp pointed.
- Slender
1. *Hypnum myosuroides tenuius*, capsulis nutantibus. *Dillenius*. 317. tab. 41. fig. 51.
Hypnum polyanthum, triangularibus angustis foliis. *Ray's Syn.* 83.
- Thick. Hud.
2. Branches short and thick. Tips oblique. Leaves egg-shaped; blunt.
Hypnum myosuroides brevius et crassius, capsulis cernuis. *Dillenius* 318. tab. 41. fig. 52.
- Greater. Hud.
3. Branches long; thick, pointed at the ends; tips upright; lids tapering, sharp-pointed; leaves egg-shaped, blunt.
Hypnum myosuroides crassius, capsulis erectis. *Dillenius* 316. tab. 41. fig. 50.
Hypnum repens triangularibus angustis foliis, ramulis subrotundis. *Ray's Syn.* 83.
- Hooked
4. Branches slender; shining; somewhat hooked at the points. Leaves awl-shaped, hooked, mostly pointing one way. Tips upright.
Hypnum myosuroides sericeum tenuius, capsulis erectis. *Dillenius* 318. tab. 41. fig. 53.
(1. 5.) In woods, at the roots of trees, and on stones. (2. 4.) On walls. (1.) Jan. Feb. Mar. (2.) Aut. Dec. Jan.
- Bird's-foot
44
Ornithopoides
Hud.
FEATHERMOSS. Shoots creeping. Branches in bundles; cylindrical; nearly upright. Tips upright; egg-shaped, *Hudson*.
430.
Hypnum gracile ornithopoides. *Dillenius* 350. tab. 41. fig. 55.
On beech-trees and rocks. April. (Feb. D.L.)
- Club
45
Clavellatum
FEATHERMOSS. Creeping. Branches upright, crowded close together; tips bowed inwards. Lids bent inwards.—*Fruit-stalks short*.
Hypnum clavellatum parvum repens, setis brevibus. *Dillenius* 551. tab. 85. fig. 17.
Trunks of trees and rotten wood. Dec.

* * * * * *Obscure Species.*

FEATHERMOSS. Shoot upright; somewhat branched. Woolly Leaves betwixt awl and bristle-shaped; points bowed back;—⁴⁶ Shoot yellow above, but blackish below. Flowers not discovered. *Trichoides* Dill.
From Dillenius.

Hypnum palustre erectum, coma lutea, basi nigricante. Dillenius tab. 59. fig. 36.

In bogs, in the northern parts of Yorkshire, and in moist places on Mount Glyder. *Dillenius.*

Obs. It seems to have a greater affinity to the Threadmoss.

HYPNUM?

Starjelly
Tremelloides
Dill.

FEATHERMOSS? Shoots branched; somewhat winged. Leaves sharp; pointing from two opposite lines; of a jelly-like substance.—No flowers hitherto discovered. Future observation may perhaps determine whether it be a Feathermoss, Livermoss, or Jellywort.

Tremella palustris gelatinosa tenerrima, Musci filicifolii facie. Dillenius, tab. 10. fig. 11.

In the ditches of a field near Chichester in Suffolk, towards the last gate. June.

418 WATERMOSS. 1190 Fontinalis.

Barren Flower nearly sitting.

EMPAL. Veil smooth; conical; sitting.

CHIVE. Tip oblong; fringed at the mouth; covered with a Lid; tapering to a point.

RECEPT. Excrecence none.

SCALYBULB. Swelling out; tiled; inclosing the tip and the veil.

Fertile Flower.

WATERMOSS. Leaves keeled; almost doubled; pointing three ways; sharp. Tips on the sides of the branches.—*Stalks* Greater
purple. Antipyretica

Fontinalis triangularis major, complicata e foliorum alis capsulifera. Dillenius 254. tab. 33. fig. 1.

Fontinalis major, foliis triangularibus complicatis capitulis in foliorum alis sessilibus. Ray's Syn. 79.

Brooks, rivulets, flow streams and ponds. P. May.

The Scandinavians line the inside of their chimnies with this to defend them against the fire, for contrary to the nature of all other Moss, this is hardly capable of burning.

Larger

Minor

WATERMOSS. Leaves egg-shaped; concave; pointing three ways; sharp; often in pairs. Tips at the ends of the branches.—*Leaves keeled and almost doubled; on the thicker branches in pairs.*

Fontinalis triangularis minor carinata, e cymis capsuliferis. Dillenius 257. tab. 33. fig. 2.

Fontinalis minor, foliis triangularibus minus complicatis, capitulis in summis ramulis sessilibus. Ray's Syn. 70.

On the brinks and sides of rivers. P. Oct.—Nov.

Scaly

Squamosa

WATERMOSS. Leaves tiled; betwixt awl and spear-shaped. Tips on the sides of the branches.—*Leaves shining; of a blackish green.*

Fontinalis squamosa tenuis sericea atrovirens. Dillenius 250. tab. 33. fig. 3.

In rivulets in mountainous countries. P. Aug.—Sept.

Feathered

Pennata
Common

WATERMOSS. Leaves pointing two ways; expanding. Tips on the sides of the branches—*tawny yellow.*

1. Leaves waved; scaly-bulb scaly.

Sphagnum pennatum undulatum, vagina squamosa. Dillenius 250. t. 32. f. 9.

Hairy. Hud.

2. Leaves waved, scaly-bulb hairy.

Sphagnum pennatum undulatum, vagina pilosa. Dillenius 249. t. 32. f. 8.

Flat. Hud.

3. Leaves flat.

Sphagnum pennatum planum. Dillenius 249. t. 32. f. 7.
Trunks of trees. P. Aug.—Sept.

Obs. Are not these rather distinct species?

419 S T A R T I P. 1196 Jungermannia.

Barren Flower on a long straight fruit-stalk rising from the empalement.

EMPAL. *Scaly Bulb* tubular.

BLOSS. None.

CHIVE. *Tip* egg-shaped; opening into four valves; expanding; equal; permanent.

Fertile Flower mostly on the same plant; sitting.

EMPAL. None, at least visible to us.

BLOSS. None.

SEEDS. Roundish, either single, or set close together.

Obs. Many species of this genus are beautiful microscopic objects.

* *Leaves*

* *Leaves winged; pointing one way.*

STARTIP. Leaves simply winged. Little leaves egg-shaped. Spleenwort
ed; somewhat fringed---Stems purple, flowering at the ends.

1. Little leaves distinct from each other.

Lichenastrum Asplenii facie, pinnis laxioribus. *Dillenius* 482.
t. 69. f. 5.

¹
Asplenoides
Tbinger

2. Little leaves set close to each other.

Lichenastrum asplenii facie, pinnis confertioribus. *Dillenius*
483. t. 69. f. 6.

Tlicket.

Lichenastrum trichomanis facie, capitulis e foliorum summitate
enascantibus majus. *Ray's Syn* 112.

Woods and moist shady places. Feb.

STARTIP. Leaves simply winged; little leaves flat, naked, Straggling
strap-shaped---Flowering at the base and middle of the branches.

Lichenastrum trichomanis facie, e basi et medio florens. *Dil.* ²
lenius 484. t. 69. f. 7.

²
Viticulosa

Lichenastrum capitulis nudis, trichomanis facie, foliolis den-
sus congestis majus. *Ray's Syn* 111.

Shady woods, hedge-banks, and wet places. April.

STARTIP?

JUNGERMANNIA?

Leaf simply winged; little leaves roundish; distinct---Leaf Sweet scented
mostly simple; sometimes branched; sweet-scented. Flowers not
discovered. From *Dillenius*.

³
Odorata
Dill.

Lichenastrum trichomanoides aquaticum odoratum fontis S.
Winifredæ. *Ray's Syn* 112. *Dillenius* t. 69. f. 8.

St. Winifred's well Flintshire; Dartmore in Cornwall, and
in Devonshire. *Dill.*

STARTIP. Leaf simply winged, flowering at the base; Little leaves sharp. *Hudson* 491.---Awl-shaped; flowers numerous,
set close together.

Lichenastrum multiflorum exile, foliis angustissimis. *Dillenius*
481. t. 69. f. 4.

⁴
Multiflora
Hud.

Woods. March.

STARTIP. Leaves simply winged; little leaves very entire; Imbricated
tiled; convex---Flowers numerous, rising from the middle of the
stem and branches.

Lichenastrum trichomanis facie, polyanthemum breve et re-
pens. *Dillenius* 486. t. 70. f. 9.

⁵
Polyanthos

In wet places, and in rivulets. April.

Spear-leaved

6

Lanceolata

STARTIP. Leaves simply winged; spear-shaped; flowering at the ends. Little leaves very entire—*of a beautiful green.*

Lichenastrum trichomanis facie minus, ab extremitate florens. Dillenius 486. t. 70. f. 10.

Lichenastrum capitulis nudis, trichomanis facie, foliolis densius congestis, minus. Ray's Syn. 112.

Moist shady places. Oct. Nov. Dec. Feb.

Cloven

7
Bidentata

Large.

STARTIP. Leaves simply winged; flowering at the ends. Little leaves marked at the end with two teeth.—

1. Larger; little leaves sharper and hollow.

Lichenastrum pinnulis acutioribus et concavis, bifidis, majus. Dillenius 487. t. 70. f. 11.

Lichenastrum trichomanis facie, foliolis bifidis, majus. Ray's Syn. 113.

Small; Dill?

2. Smaller; little leaves blunter. Flowers not discovered.

Lichenastrum pinnulis obtusioribus bifidis minus. Dillenius t. 70. f. 12.

Woods, moist heaths, and shady banks. Oct. Nov.

Forked

8

Bicuspidata

STARTIP. Leaves simply winged; flowering in the middle; little leaves marked at the end with two teeth.—

Lichenastrum pinnulis acutissime bifidis, minimum. Dillenius 488. t. 70. f. 13.

Lichenastrum trichomanis facie, foliolis bifidis, minimum. Ray's Syn. 113.

Moist shady places. March,

Three-toothed

9

Tridentata

Dill.

STARTIP?

JUNGERMANNIA?

Leaves simply winged. Little leaves marked at the end with three teeth—*The lower ones somewhat serrated. Flowers not discovered. Leaf branched. From Dillenius.*

Lichenastrum ramosius, foliis trifidis. Dillenius t. 70. f. 15.

Snowden. Summer. Dill.

Toothed

10

Quinquedenta-
ta

STARTIP. Leaves winged; branched; flowering at the ends. Little leaves marked at the end with five teeth—*Shoot sometimes simple, taking root as it creeps along. The Tips appear in autumn, and blossom in the spring.*

Lichenastrum multifidum majus, ab extremitate florens. Dillenius 494. t. 71. f. 23.

Lichenastrum trichomanis facie, foliolis multifidis, capitulis e summis ramulis nascentibus. Ray's Syn. 113.

Toothed *Lichenastrum.*

Woods. April.

JUNGER-

STARTIP ?

JUNGERMANNIA ?

Serrated

11

Serrata

Dill.

Leaves simply winged; little leaves serrated—*alternate*. *Serratures sharp along the inner margin*. Leaf *simple*. Flowers *not discovered*. From Dillenius.

Lichenastrum pinnulis alternis, quasi spinosis. Dillenius t. 70, f. 16.

Caernarvon. *Dill.*

*** Leaves winged; little leaves covered on the upper side, with small ear-like scales.*

STARTIP. Leaves doubly winged above; flowering at the Eared ends; little leaves roundish; very entire; waved.—

12

Lichenastrum pinnulis auriculatis majoribus et non crenatis. Undulata Dillenius 490. t. 71. f. 17.

Shady places. March.

STARTIP. Leaves doubly winged above; flowering at the ends. Little leaves fringed—*inversely egg-shaped; somewhat tiled*. Wood

13

Lichenastrum auriculatum, pinnis minoribus crenatis. Dillenius 490. t. 71. f. 18.

Wood *Lichenastrum*.

Moist woods. March.

STARTIP ?

JUNGERMANNIA ?

Bird's-foot

14

Ornithopoidea

Dill.

Leaves doubly winged above, little leaves betwixt egg and spear-shaped; fringed; distinct—*Shoot somewhat branched*. Flowers *not discovered*. From Dillenius.

Lichenastrum auriculatum, Ornithopodii minoris pinnulis ciliatis. Dillenius t. 71. f. 21.

Snowden. *Dill.*

STARTIP. Leaves doubly winged above; flowering towards the base. Little leaves somewhat scolloped; tiled; round.

15

Lichenastrum auriculatum, pinnulis rotundis crispum. Dillenius 491. t. 71. f. 19.

Resupinata

Lichenastrum trichomanis facie, capitulis e foliorum summitate nascentibus, medium. Rey's Syn. 112.

Clefts of rocks. April.

The under side of this resembles the under side of a staircase.

White
16
Albicans

STARTIP. Leaves doubly winged above ; flowering at the ends. Little leaves strap-shaped ; bowed back.—

Lichenastrum auriculatum, pinnulis angustis, planis, recurvis. *Dillenius* 492. t. 71. f. 20.

Lichenastrum trichomanis facie, capitulis e foliorum summitate nascentibus minus. *Ray's Syn.* 112.

Moist woods, and shady places. March.

Trifid
17
Trilobata

STARTIP. Leaves doubly winged underneath. Little leaves almost square ; with three imperfect lobes—*Rib of the leaf jointed.*

Lichenastrum pinnulis obtuse trifidis nervo geniculato. *Dillenius* 493. t. 71. f. 22.

Wales.

Creeping
18
Reptans

STARTIP. Leaves doubly winged underneath ; taking root at the ends. Little leaves with four teeth—*flowers at the base.* Tips black ; *shining.*

Lichenastrum multifidum exiguum ad basin florens, per siccitatem imbricatum. *Dillenius* 494. t. 71. f. 24.

Lichenastrum trichomanis facie, foliolis multifidis, capitulis ex imis cauliculis nascentibus. *Ray's Syn.* 113.

Wet shady places. Ditch-banks. April.

* * * *Leaves tiled.*

Flat
19
Complanata

STARTIP. Shoots creeping ; flowering at the ends. Leaves doubly tiled with little scales underneath. Branches of an equal breadth throughout—*Leaves of a yellowish green ; flat.*

Lichenastrum imbricatum majus, squamis compressis et planis. *Dillenius* 496. t. 72. f. 26.

Lichenastrum imbricatum majus. *Ray's Syn.* 111.

In shady places, at the roots of trees, damp stones and walls. March—April.

Scaly
20
Dilatata

STARTIP. Shoots creeping ; flowering at the ends. Leaves doubly tiled, with little scales underneath. Branches broader towards the ends—*Leaves convex, smaller, and Shoots narrower than in the preceding species.*

Lichenastrum imbricatum minus, squamis convexo-concavis. *Dillenius* 497. t. 72. f. 27.

Lichenastrum imbricatum minus. *Ray's Syn.* 111.

Trunks of trees, and stones. March. April.

Small
21
Minima
Dill.

STARTIP. Shoots creeping, flowering at the base. Leaves doubly tiled ; with little scales underneath—*flat ; ashcoloured.*

Lichenastrum imbricatum minimum squamis planis cinereis. *Dillenius* t. 72. f. 28.

Bagley wood near Oxford. *Dill.*

STAR-

STARTIP. Leaves tiled in a double row. The upper leaves Tamarisk
circular; convex; blunt; four times as large as the other.—²² Tamarisci
Dark purple.

Lichenastrum imbricatum tamarisci Narbonensis facie. Dil-
lenius 490. t. 72. f. 31.

Rocks and trunks of trees. March.

STARTIP. Shoots trailing; tiled underneath. Leaves Wall
heart-shaped; sharp. The little scales disposed along the rib of ²³
the shoot; wedge-shaped—*Leaves dark green.* Platyphyllo

Lichenastrum Arboris Vitæ facie, foliis minus rotundis. Dil-
lenius 501. t. 72. f. 32.

Walls and trunks of trees. March. April.

STARTIP? JUNGERMANNIA?

Arbor Vitæ

Shoots trailing; tiled underneath. Leaves heart-shaped;
the little scales disposed along the rib of the shoot; awl-shaped—²⁴
Leaves rather rounder than those of the preceding species. Flowers ^{Dill.} Arboris Vitæ
not discovered. From Dillenius.

Lichenastrum Arboris Vitæ facie, foliis rotundioribus. Dil-
lenius t. 72. f. 33.

On trees. Dill.

STARTIP. Shoots creeping; leaves doubly tiled; with Fern
little scales and fringed appendages underneath—*The upper leaves* ²⁵
are often cloven. The under surface appears hairy from the quantity Ciliaris
of fringe upon the little leaves and appendages.

Lichenastrum filicinum pulchrum villosum. Dillenius 503. t.
73. f. 35.

Lichenastrum filicinum crispum. Ray's Syn. 111.

Wet mossy places near rivulets, on heaths. April.

STARTIP. Shoots nearly upright; tiled; and pointing two Upright
ways. Leaves deeply divided.----*The blossoming shoots are up-* ²⁶
right, and furnished with narrow leaves pointing every way. Those Varia
which do not blossom, or the fertile shoots, creep along the ground,
edged with roundish leaves pointing only two ways.

Lichenastrum foliis variis. Ray's Syn. 113. Dillenius 505.
t. 72. f. 36.

Woods, heaths, and moist shady places. March.

* * * * Shoots tiled on every side, little leaves scattered.

STARTIP. Shoots cylindrical. Leaves tiled on every side; Round
flowers on fruit-stalks.—

Lichenastrum alpinum Bryi juliacei argentei facie. Dillenius Julacea ²⁷
506. t. 73. f. 38.

Wet rocks. Aug.—Sept.

STAR-

Rock
28
Rupetris

STARTIP. Shoots cylindrical. Leaves awl-shaped, pointing one way.—*This plant is extremely short; blackish; nearly upright and seldom branched. Flowers on short fruit stalks.*

Lichenastrum alpinum nigricans, foliis capillaceis reflexis, Dillenius 507. t. 72. f. 40.

Moist rocks. April—May.

Hair
29
Tricophylla

STARTIP. Shoots cylindrical. Leaves hair-like; equal.—*Flowers at the ends of the branches.*

Lichenastrum trichoides minimum, in extremitate florens. Dillenius 507. t. 73. f. 37.

Boggy Heaths.

Mountain
30
Alpina

STARTIP. Shoots cylindrical. Leaves egg-shaped; expanding; cups tiled, dark reddish colour. Valves of the tips rolled back when out of blossom.

Lichenastrum alpinum atro-rubens teres, calycibus squamulis. Dillenius 506. t. 73. f. 39.

Marshy places on mountains. In the hollow parts of rocks Sept.—Oct.

***** Without stems. Leaves simple.

Broad-leaved
31
Epiphylla

STARTIP. Without a stem. A little leaf growing upon the large one.—*The little leaves which arise from the middle of the large ones, are hooded, and contain in their cavities a little globular substance which is the pointal; and round this about seven small Chives. At length the pointal is furnished with a fruit stalk and then the chives fall off. Tips globular.*

Lichenastrum capitulis 10 undis, e foliorum medio enascentibus, Ray's Syn. 110. Dillenius 507. t. 74. f. 41.

Lichen petragus, cauliculo calceato. Bauh. pin. 562.

Lichen alter minor, folio calceato. Park. t. 14.

Wet shady places near brooks, and rivers. March.

Jagged
32
Pinguis

STARTIP. Without a stem. Leaf oblong; indented; greasy to the touch.—*Fruit stalks rising from the hollows of the leaf. Sheath long; cylindrical. Tips oblong. The plant which bears the Barren Flowers is much smaller and more jagged, than that which bears the Fertile ones, which grow together, and form a close upright tuft.*

Lichenastrum capitulis oblongis, juxta foliorum divisuras enascentibus, Ray's Syn. 110. Dillenius 509. t. 74. f. 42.

Marshes. April.

STARTIP.

STARTIP. Without a stem. Leaves with doubly winged Dwarf
clefts. Valves of the tips fringed at the ends with hair,—*Strap-*
shaped. Tips rising from near the base of the leaves. ³³ Multifida

Lichenastrum ambrosiæ divifura. Ray's Syn. 111 *Dillenius*
511. t. 74. f. 43.

Woods, and moist shady places. March—April.

STARTIP. Without a stem. Leaves with doubly winged *Germander*
clefts. Valves of the tips entire; spear-shaped—*Tips rising from*
the hollows of the leaf. Leaf not so finely divided as in the preceding ³⁴ *Chamedryfolia*
species. From *Dillenius*. *Dill*

Lichenastrum chamedryos multifidæ divifura. *Dillenius* t.
74. f. 44.

At the head of Elm-cragg-well under Bill-bank. *Dill*.

STARTIP. Without a stem. Leaves strap-shaped; branch- *Globe*
ed; forked at the ends and bluntish.—*Scaly bulb globular; edged*
with teeth; hairy. ³⁵ *Furcata*

Lichenastrum tenuifolium furcatum, thecis globulis pilosis.
Dill. 512. t. 74. f. 45.

Ulva saxatilis furcata, latiusculis et tenerioribus segmentis.
Ray's Syn. 63.

Wet rocky places, on the ground, and trees in woods:
April.

STARTIP. Without a stem. Leaves slightly divided into *Shining*
winged clefts. Lobes tiled. Scaly bulb plaited—*The little head*
before it unfolds is black and nearly globular. Valves of the ³⁶ *Pusilla*
wedge-shaped.

Lichenastrum exiguum, capitulis nigris lucidis, e cotylis
parvis nascentibus. *Dill.* 513. t. 74. f. 46.

On heaths. March—April.

420 LIVERWORT. 1198 Marchantia.

Barren Flower upon a long, straight fruit-stalk ; rising out of a little cup.

EMPALE. *Cup*, common ; target-shaped ; with four, five, or ten clefts ; very large ; target-shaped ; containing under it as many florets as there are segments. *Segments* equal ; bent downwards at the sides.

BLOSS. One petal ; turban-shaped ; straight ; shorter than the empalement.

CHIVE. *Thread* one ; longer than the blossom ; simple. *Tip* somewhat egg-shaped ; opening at the top into as many segments as there are in the common empalement. *Dust* fixed to a little hairy lock.

Fertile Flower upon the same plant ; sitting.

EMPALE. *Cup* consisting of a membranaceous margin ; upright ; open ; entire ; permanent ; of one leaf.

BLOSS. None, unless the cup.

SEEDS. Many ; roundish ; compressed ; naked ; at the bottom of the cup.

OES. *In some species the barren and fertile flowers are upon distinct plants.*

Common
Polymorpha

* **LIVERWORT.** Common cup with ten clefts—*Leaves* broad ; irregular ; of a dusky green. A yellowish substance resembling a lock of wool proceeds from the tips, appearing to move within them whilst the dust is falling out.

Larger

1. *Lichen fontanum major stellatus æque ac umbellatus et cyathophorus.* *Dillenius* 523. t. 76. f. 6.
Lichen petraeus latifolius, sive hepatica fontana. *Bauh. pin.* 362. *Ray's Syn.* 115.

Smaller

2. Smaller.
Lichen domesticus minor stellatus æque ac umbellatus et cyathophorus. *Dillenius* 527. t. 77. f. 7.
Lichen petraeus stellatus. *Bauh. pin.* 362. *Ray's Syn.* 115.
1. Shady moist rocks, and near springs and wells. 2. Shady garden-walks and in the interstices of walls and stones towards the north. August.

LIVER.

LIVERWORT. Common cup with four divisions; seg-² Cross-headed
ments tubular—*Florets with four divisions.* Fertile Flower crescent-²
shaped. Leaves of a fine green. **Cruciata**

Lichen seminifer lunulatus; florifer pileatus, tandem crucia-
tus. *Dillenius*. 521. t. 75. f. 5.

Lichen pileatus parvus, capitulo crucis instar, se expandente.
Ray's Syn. 115.

Shady places. July—August.

LIVERWORT. Common cup with five clefts; hemisphe-³ Marth
rical. Scaly bulb none.—*Florets nearly globular; edged with teeth.* **Hemisphaerica**
Lichen pileatus parvus, foliis crenatis. *Ray's Syn.* 114. *Dil-*
lenius 519. t. 75. f. 2.

In wet marshy places. April—May.

LIVERWORT. Common cup somewhat egg-shaped; di-⁴ Wart
vided into five cells—*Leaves in large clusters; indented; blunt;* **Conica**
green; with several white tubercles.

Lichen vulgaris major pileatus et verrucosus. *Dillenius* 516.
t. 75. f. 1.

Lichen petræus pileatus. *Park.* 1314. *Ray's Syn.* 114.

Lichen petræus cauliculo pileolum sustinente. *Baub. pin.* 362.

On the banks of rivulets in shady places. April.

421 VETCHCAP. 1197 Targionia.

EMPALE. Somewhat globular; with two valves.

CHIVE. Tip bell shaped; sitting at the bottom of the
empalement.

VETCHCAP. As there is only one species known *Linnæus* Dotted
gives no description of it.—*Leaf betwixt heart and spear-shaped.* **Hypophylla**
Green at first, afterwards dark purple; blackish underneath. Flower
at the end on the under side. Cup black.

Lichen petræus minimus, tractu orobi. *Baub. pin.* 352.
Dil. 532. t. 78. f. 9.

Lichenastrum capitulo oroboide. *Ray's Syn.* 110.

Lichen petræus minimus acaulos. *Park.* 1315.

In mossy places.

422 HORN.

FLOWERS INCONSPICUOUS.

422 HORNFLOWER. 1201 Anthoceros.

Barren Flower sitting.

EMPAL. One leaf; somewhat cylindrical; lopped; entire.

BLOSS. None.

CHIVE. *Thread* none. *Tip* single; awl-shaped; exceedingly long; with two valves. *Dust* fixed to a loose hair-like receptacle.

Fertile Flower sitting, generally upon the same, but sometimes upon a distinct plant.

EMPAL. One leaf; with six divisions; expanding.

SEEDS. About three; naked; roundish; at the bottom of the empalment.

OBS. *Divisions of the empalment sometimes only four, and then there are but two seeds.*

Spotted
Punctatus

HORNFLOWER. Leaves undivided, indented, dotted.—
Tips an inch long. Tip and Fruit-stalk from two to three inches.

Anthoceros foliis minoribus magis laciniatis. Dil. 476. t. 68. f. 1.

Lichenastrum gramineo pediculo et capitulo oblongo bifurco Ray's Syn. 109.

Moist shady places and on heaths. April.

423 LEATHERCUP. 1199 Blasia.

Barren Flower.

EMPAL. One leaf; egg-shaped at the base; somewhat cylindrical in the middle; expanded towards the end, and lopped.

CHIVES. A number of little grains lying loose in the cup.

Fertile Flower.

EMPAL. Hardly any.

S. VESS. Roundish; single; buried in the leaves.

SEEDS. Several; roundish.

OBS. *It is a doubt which of these is to be called the Barren and which the Fertile flower.*

LEATHER-

LEATHERCUP. As there is only one species known Dwarf Linnaeus gives no description of it.—*Leaves in a circle, from one Pufilla to two inches in Diameter; deep purple at the base; green at the edges; jagged. Seeds so small that their form is scarce to be distinguished by the naked eye.*

Mnium Lichenis facie. Dill. 237. t. 31. f. 7.

On the sides of ditches and rivers in a sandy soil.

424 GRAINWORT. 1200 Riccia.

EMPAL. None; except a hollow bladder within the substance of the leaf.

BLOSS. None.

CHIVE. *Tip* cylindrical; fitting on the seedbud; opening at the end.

POINT. *Seedbud* turban-shaped. *Shaft* thread-shaped; perforating the tip.

S.VESS. Globular; with one cell; crowned with the shrivelled tip.

SEEDS. Many; hemispherical; on little foot-stalks.

GRAINWORT. Leaves smooth; deeply divided; sharp at the ends—*Spreading on the ground.* ^{Small}

Lichen omnium minimus, foliolis super terram expansis. Minima Ray's Syn. 115. Dillenius 534. t. 78. f. 11.

In grounds that are overflowed and on wet heaths. Nov.

GRAINWORT. Leaves smooth; channelled, with two Marsh lobes—*blunt at the end.*

Lichen minimus, foliis venosis bifariam vel trifariam se dividendo progredientibus. Dillenius 533. t. 78. f. 10. ² *Glauc*

Wet commons. March.

GRAINWORT. Leaves forked; between thread and strap shaped.—*Float*

Lichenastrum aquaticum fluitans tenuifolium furcatum. Dill. Fluitans lenius 514. t. 74. f. 37. ³

Uva palustris furcata, angustioribus et firmioribus segmentis.

Ray's Syn. 63.

In stagnant waters.

GRAINWORT. Leaves inversely heart-shaped; fringed.—*Fringed*

Lichen parvus vermis cordiformis, ima parte fimbriatus, Lentis palustris modo aquae innatans. Ray's Syn. 110. Dill. Natans 526. t. 78. f. 18. ⁴

In stagnant waters.

GRAIN-

Ear-like

Auriformis
Dill.

GRAINWORT. Leaves inversely heart-shaped; indented; tiled.—*Broader than those in the preceding species; not fringed; of a blackish green; spreading horizontally into a circular tuft.* From Dillenius.

Lichenoides gelatinosum atro-virens, auriculatum et granosum. Dillenius t. 19. f. 24.

Garden gravel walks. Spring. Dill.

Rock

6
Sinuata
Hud.

GRAINWORT. Leaves branched; segments indented; broader and scolloped at the ends. *Hudson 441.*

Lichenoides gelatinosum, foliis latoribus tuniformibus. Dill. 142. t. 19. f. 29.

On rocks.

425 CUP THONG. 2102 Lichen.

Barren Flowers numerous; residing in a receptacle which is mostly circular; very large; shining; gummy; either flat, convex, or concave.

Fertile Flowers, and *Seeds* like meal, scattered over the same, or a distinct plant.

This Genus is subdivided into the

- A. **TUBERCLED**; or those which consist of a ground or thin crust studded with convex receptacles, or tubercles.
- B. **SAUCER-LIKE**; a crust studded with concave receptacles resembles little bowls or saucers.
- C. **TILED**; leaves spreading flat, and closely adhering to the substance on which they grow.
- D. **LEAFY**. Leaves loose from the substance on which they grow.
- F. **LEATHERLIKE**. Of a substance resembling leather.
- F. **Sooty**; adhering to the substance on which they grow only in one point; and the surface as if sprinkled with soot.
- G. **GLASS-SHAPED**. Receptacles expanding into the form of a drinking glass.
- H. **SHRUBBY**. Shooting into branches resembling a shrub.
- I. **THREADLIKE**. Shooting into long thread-like branches.

Obs. Mr. Hudson calls this Genus **LIVERWORT**, but as the *Marchantia* of Linnaeus is commonly known by the name of *Liverwort*, it was thought better to continue the old name to that and find a new one for this.

CUP-

A. TUBERCLED.

CUPTHONG. A whitish ground, with black branching lines Lettered resembling written characters—

Lichenoides crusta tenuissima, peregrinis velut litteris inscripta. ¹Scriptus
Ray's Syn. 71. *Dillenius* 125. t. 18. f. 1.

On the barks of trees.

CUPTHONG. A yellowish ground, with black lines re- Map
sembling a map.—

Lichenoides nigro-flavum tabulae geographicæ instar pictum. ²Geographicus
Dillenius 126. t. 18. f. 5.

On rocks.

CUPTHONG. A whitish ground, diversified with simple Wrinkled
black lines and dots, set thick together.—

Lichenoides punctatum et rugosum nigrum. *Dillenius* 125. ³Rugosus
t. 18. f. 2.

Barks of trees.

CUPTHONG. A greenish ground inclining to ash colour, Black knobbed
with black tubercles—*Large; nearly globular; not shining; of a* ⁴
deep black without, but red within if broken. ⁴Sanguinarius

Lichenoides leprosum, crusta cinereo-virescente, tuberculis
nigerrimis. *Ray's Syn.* 71. *Dillenius* 126. t. 18. f. 3.

On rocks and trunks of trees.

CUPTHONG. Ground brown with black tubercles—
On old walls and rocks.

Wall

⁵Fusco-ater

CUPTHONG. Ground a clear white, with black tubercles—
Lichenoides tartareum tinctorium candidum, tuberculis atris.

Dyers

⁶Calcarius

Dillenius 128. t. 18. f. 8.

On lime-stone rocks.

This species is so peculiar to limestone rocks, that wherever
that stone occurs among others, it may be distinguished at the first
view by this plant growing upon it—When dried, powdered
and steeped in urine it is used to dye scarlet, by the Welch and
the inhabitants of the Orkneys. The colour is said to be very
fine.

CUPTHONG. A greenish ground, with orange coloured Orange
tubercles. *Hudson* 443.

Trunks of trees.

⁷Flavo tubef-
cens Hud.

CUPTHONG. A whitish ground, with tubercles the colour Rusty
of rusty iron. *Hudson* 444.

Lichenoides leprosum, tuberculis fuscis et ferrugineis. *Dill.* ⁸Ferrugineus
126. t. 18. f. 4. t. 55. f. 8. *Hud.*

On the bark of trees, and stones.

Vol. II.

Y

CUP-

White

Fagineus

CUPTHONG. A white ground, with white mealy tubercles—

On the trunk and branches of Elm and Hornbeam (*Hudson*)
On the trunks of the Beech. (*Linnaeus*.)

Hornbeam

Crapineus

CUPTHONG. An ash coloured ground, with whitish wrinkled tubercles—

On Hornbeam, Ash and Hazel.

Powdered

Byssoides

CUPTHONG. Ground a fine powdery crust; tubercles nearly globular; on fruit-stalks.—*Crust of a greenish ash colour. Tubercles resembling little Mushrooms, of a bluish red at the top. Fruit-stalks whitish.*

Coralloides fungiforme ex ungula equina, livide rubescens. Dill. 78. t. 14. f. 5.

Fungi parvi globosi ex ungue equino putrescente. Ray's Syn. 13. t. 1. f. 3.

In gravelly soil, and on horse-dung.

Heath

Ericetorum

CUPTHONG. Ground a clear white, with flesh coloured tubercles,—*On fruit-stalks, resembling little Mushrooms, convex at the top. Fruit-stalks flesh-coloured.*

Lichenoides fungiforme, crusta leprosa candida, capitulis et pediculis incarnatis. Ray's Syn. 70.

Coralloides fungiforme carneum basi leprosa. Dill. 76. t. 14. f. 1.
On wet heaths. October—April.

Brown

Rufus

Hud.

CUPTHONG. Ground brown, with brownish flat tubercles on fruit-stalks. *Hudson 443.*

Coralloides fungiforme, saxatile, pallide fuscum. Dill. 78. t. 14. f. 4.

On old walls, and rocks. December—February.

Warty

Pustulosus

CUPTHONG. A white or ash-coloured ground; covered with a number of angular smooth warts, set chequer wise, and pierced with one or two cylindrical holes.—*The ground itself is thin, but the crust formed by the warts pretty thick. Warts greenish.*

Lichenoides verrucosum et rugosum, cinerum, glabrum. Dill. 128. t. 18. f. 9.

Lichen verrucosus. Hudson. 445.

Walls, stones, and barks of trees.

B. SAUCERLIKE.

CUPTHONG. A deep yellow crust, with pale yellow saucers. — Yellow

1. Lichen candelarius. *Hudson* 444.

¹⁵
Candelarius
Common

Walls and bark of trees.

It gives a yellow colour. In Sweden they bruise it and mix it with suet to make yellow candles for festivals.

2. A greenish crust inclining to yellow, with deep yellow saucers. *Greenish. Hudson* 445.

Lichen flavefcens. *Hudson*, 445.

Lichenoides crustosum, orbiculis et scutellis flavis. *Dillenius*, 136. tab. 18. fig. 18.

On walls.

CUPTHONG. A greenish crust with a tinge of white; with Stonerag yellowish saucers white at the edge. —

Lichenoides crustaceum et leprosum acetabulis majoribus luteis, Tartareus limbis argenteis. *Ray's Syn.* 71. *Dillenius*, 132. tab. 18. fig. 17.

Welsh Liverwort.

On rocks.

It is common in Derbyshire, and incrusts most of the stones at Urwic Mere. It is gathered for the dyers, by peasants who sell it for a penny a pound. They can collect twenty or thirty pound a day. It gives a purple colour.

CUPTHONG. A whitish crust, with wan-coloured saucers. Pale

1. Saucers small, sometimes brownish, or of a lead-colour, with an ash-coloured margin. *Common* ¹⁷
Pallidescens

Lichenoides crustosum orbiculare incanum. *Dillenius*, 135. tab. 18. fig. 17.

Lichenoides cinereum mere crustaceum eleganter expansum. *Ray's Syn.* 71.

2. Saucers greenish, inclining to ash-colour.

Lichenoides crustaceum et leprosum, scutellis cinereo virefcen- *Greenish. Hudson*
tibus. *Ray's Syn.* 71.

Walls and trunks of trees.

CUPTHONG. A whitish crust with black saucers; the new formed ones hollow and distended. —

Black-spangled.

1. A whitish crust with black wrinkled saucers.

¹⁸

Ater. *Hud.*

Lichenoides crustaceum et leprosum, scutellis nigricantibus majoribus et minoribus. *Ray's Syn.* 71. *Dillenius* 133. tab. 18. fig. 15.

Wrinkled

Lichen Subfuscus. *Syst. Natur.*

On trees, walls and stones.

Y 2

CUPTHONG.

- Brown-spangled** ¹⁹
Sulfureus
Sp. Pl. and Hud. **CUPTHONG.** A whitish crust, with brownish saucers and an ash-coloured margin somewhat notched.—
Lichenoides crustaceum et leprosum, scutellis subfuscis. Ray's Syn. 71. Dillenius 134. tab. 18. fig. 15.
On the bark of trees, walls and rocks.
- Red-spangled** ²⁰
Rufescens
Dill. **CUPTHONG.** A livid coloured crust, with saucers of a reddish brown, and a fine thin margin. *From Dillenius.*
Lichenoides tartareum lividum, scutellis rufis, margine exili. Dillenius, tab. 18. fig. 17.
On Pentir rocks in Wales. *Dill.*
- Meal-spangled** ²¹
Albescent.
Hud. **CUPTHONG.** An ash coloured crust, with white flat mealy saucers. *Hudson, 443.—Crust very thin, margin edged with a greenish blue stripe.*
Lichenoides candidum et farinaceum, scutellis fere planis. Dillenius, 131. tab. 18. fig. 11.
Lichenoides crusta tenuissima, sulcis cochleæ-formibus insignita. Ray's Syn. 71.
Walls, and barks of trees.
- Crab's-eye** ²²
Parellus.
Lin. and Dill. **CUPTHONG.** A white crust, with hollow blunt pale targets.—
Lichenoides leprosum tinctorum, scutellis lapidum cancri figura. Dillenius, 130. tab. 18. fig. 10.
Walls, rocks, and stones; at all times. *Dill.* On Malvern hills.

C. TILED.

- Spreading** ²³
Centrifugus **CUPTHONG.** Tiled: leaves with many imperfect clefts; smooth; whitish; pointing from a center. Saucers reddish brown.—*Leaves greenish, saucers chestnut-coloured. Dill. It is sometimes too, of a dark chestnut with chocolate coloured saucers, but upon putting it into water the chestnut will change in a few minutes to a brownish green, or true olive, and if suffered to remain sometime longer, the chocolate saucers will turn to a bright bay, and the whole appear exactly as Dillenius has described it.—When dry, it resumes its former colour.*
Lichenoides imbricatum viridans, scutellis badiis. Dillenius, 180. tab. 24. fig. 75.
On large stones.
- Flat-spangled** ²⁴
Cartilagineus
Dill. **CUPTHONG.** Tiled: leaves with many imperfect clefts; pointing from a center. Saucers flat; tawny,—*pretty large. Leaves of a gristly substance. From Dillenius.*
Lichenoides cartilagineum, scutellis tulsis planis. Dillenius, tab. 24. fig. 74.
On bones, and rocks in Anglesey, and on Glyder-hill. *Dill.*
CUPTHONG.

CUPTHONG. Tiled: leaves bluntly notched; pointing Notched from a center. Saucers notched at the edge.—*Leaves soft and thin. Has somewhat of the appearance of Agaric.* From Dillenius, *Crenulatus*.
Lichenoides tenue et molle, Agarici facie. Dillenius, tab. 24. *Fill.*

fig. 73.

On trees near Pentir and Bangor. *Dill.*

CUPTHONG. Tiled: leaves indented; rough; pitted. Stone Saucers chestnut coloured.—*Leaves bluish grey; black and hairy underneath.* Saucers sometimes of a blackish hue. *Saxatilis*

1. *Lichenoides vulgatissimum cinereo-glaucum, lacunosum et Blue. cirrosum.* Dillenius, 182. tab. 24. fig. 81.

Lichenoides crusta foliosa, superne cinereo-glaucum, inferne nigra et cirrosa, scutellis nigricantibus. Ray's Syn. 72.

2. Leaves smooth, and purplish, with larger saucers.

Purple.

Lichenoides arboreum purpurascens tenue et laeve, scutellis majoribus. Ray's Syn. 73.

Hed.

On stones, and trunks of trees.

It is used by the inhabitants of the North to dye purple.

CUPTHONG. Tiled: leaves with many clefts; smooth; Purple blunt; hoary; sprinkled with scattered rising dots; — *purple.*

27

Lichen petraeus purpureus Derbientis. Park. 1315.

Omphalodes

Lichenoides saxatile tinctorium, foliis pilosis purpureis. Ray's Syn. 74. Dillenius, 185. t. 24. fig. 80.

Cork, or Arcell. Kenkerig *Wells.*

On rocks.

It dyes wool of a dull but durable crimson or purple colour. It has been used as a styptic.

CUPTHONG. Tiled: leaves lobed; shining; of a livid hue; Olive — *Targets orbicular; membranaceous; raised above the surface of the leaf, and their margins unconnected with it.* *28*

Olivaceus

1. Targets warty; larger.

Warty

Lichenoides olivaceum, scutellis amplioribus verrucosis. Dillenius, 185. tab. 24. f. 78.

2. Targets smooth.

Smooth. Hed.

Lichenoides olivaceum, scutellis laevibus. Dillenius, t. 24. f.

77. *Lichenoides crusta foliosa scutellata, pullum.* Ray's Syn. 72.

3. Lobes broader; of a brownish green.

Lichenoides arborum et saxatile, crusta foliosa tenui, fusco-virente, in segmenta latiora plerumque divisa. Ray's Syn. 74.

Broad. Hed.

On rocks, and trees.

Green

²⁹
Virens
Dill.

CUPTHONG. Tiled: leaves lobed; indented; of a bright green. Saucers reddish yellow; downy underneath.—*Leaves large; broad. Saucers numerous. From Dillenius.*

Lichenoides late virens, scutellis fulvis. Dillenius, tab. 25. fig. 98.

On the ash in Ireland, on stones at Comb Floyd near Bishop's Caille, and on oaks between Carno and Mayne Loin in Merionethshire. *Dillenius.*

Jagged

³⁰
Laciniatus
Hud.

CUPTHONG. Tiled: leaves lobed; smooth; indented; of a pale bluish colour. Saucers reddish yellow; downy underneath.—*Leaves still larger than the preceding; lobes narrower. From Hudson.*

Lichenoides subglaucum cumatile, foliis tenacibus, eleganter laciniatis. Dill. 197. t. 26. f. 99.

On the side of the road between Carnoe and Mayne Loin in Merionethshire. Aug. *Dill.*

Obs. Hudson has characterised it "Leafy, creeping," &c. and has accordingly arranged it amongst the Lenty Cupmosses.—Future observation may perhaps determine whether this and the preceding may not be only varieties of one common species.

Rust spangled

³¹
Fuliginosus
Dill. 4

CUPTHONG. Tiled: leaves indented; sprinkled all over with a black mealiness like foot. Saucers rust-coloured; downy underneath. *From Dillenius.*

Lichenoides fuliginosum, scutellis rubiginosis. Dill. t. 26. f. 100.

Obs. This and the two preceding species I have ventured to arrange amongst the Tiled cupmosses. Dillenius characterises them all as closely adhering to the substance on which they grow. Perhaps too the caperatus of Linnaeus might more properly find a place here, as he very justly remarks it can hardly be called leaty. Accurate examinations however of the plants themselves can alone determine it.

Curled

³²
Crispus

CUPTHONG. Tiled: leaves lobed; lopped; scolloped; blackish green. Saucers of the same colour.—*Of a jelly-like substance. Saucers nearly as broad as the leaves.*

Lichenoides gelatinosum atro virens, crispum et rugosum. Dill. 139. t. 19. f. 23.

Shady stony places, and at the bottom of walls.

Jelly

³³
Gelatinosus
Dill.

CUPTHONG. Tiled: leaves cloven: segments lopped; notched. Saucers smaller than the leaves.—*Of a jelly-like substance.*

Lichenoides tenue crispum, foliis parvis depressis. Dill. t. 19. f. 33.

Wigmore Cliffs Herefordshire. *Dill.*

CUP.

CUPTHONG. Tiled: edged with fringe like teeth. Tar- Crossed
gets larger than the leaves.—*Of a jelly-like substance.* Leaves ³⁴
narrow, of a bluish lead colour. Saucers *brown.* Teeth *sometimes* Cristatus
blunt.

1. *Lichenoides gelatinosum, foliis imbricatis et cristatis.* Dill. *Common*
140. t. 10. f. 96.

Lichenoides gelatinosum tenerius laciniatum, ex plumbeo
colore cærulefcens, scutellis fuscis. Ray's *Syn.* 72.

2. Leaves hairy, thicker, of a dark green. *Hairy. Hud.*

Lichenoides foliis pilosis erasioribus, obscure virentibus scu-
tellis fuscis. Ray's *Syn.* 74.

On rocks and walls.

CUPTHONG. Tiled: leaves curled; deep yellow. Tar- Gold-frangled
gets the same colour—*Leaves sometimes of a yellowish green, with* ³⁵
targets of a pale yellow. And *sometimes of a bright orange.* *Parietinus*

Lichenoides vulgare sinuosum, foliis et scutellis luteis. Dill.
180. t. 14. f. 76.

Lichenoides crusta foliosa scutellata, flavesccens. Ray's *Syn.* 72.

Common Liverwort.

On trees, wood, stones, walls, and tiles.

CUPTHONG. Tiled: segments blunt; somewhat inflated— Inflated
The ends of the leaves appear swelled, and when cut transversely are ³⁶
hollow as if blown up. *Ash coloured on the upper; black and smooth* *Physodes*
on the under surface

Lichenoides ceratophyllon obtusius et minus ramosum. Ray's
Syn. 76. Dill. 154. t. 20. f. 49.

On heaths.

CUPTHONG. Tiled: leaves oblong; ash-coloured; divided Starry
into narrow segments. Saucers blackish brown. ³⁷

Lichenoides cinereum, segmentis argute stellatis, scutellis *Stellaris*
nigris. Dill. 176. t. 24. f. 70.

Lichenoides arboreum, crusta foliosa albo-cinerea, tenuiter
et eleganter dissecta, scutellis nigris. Ray's *Syn.* 74.

On ash and blackthorn.

CUPTHONG. Tiled: leaves oblong; green; divided into Distorted
narrow straddling segments. Saucers blackish brown. *From Dil-* ³⁸
lenius. *Distortus*

Lichenoides viride, segmentis angustis distortis, scutellis *Dill.*
pullis. Dill. t. 24. f. 72.

About Oxford. Dill.

Saw-toothed
39
Runcinatus
Dill.

CUPTHONG. Tiled: leaves oblong; narrow; betwixt indented and toothed; brown; segments blunt. Saucers brownish black; notched at the edge. *From Dillenius.*

Lichenoides angustifolium fuscum, scutellis pullis. Dill. t. 24. f. 69.

Bangor rocks. *Dill.*

Circular
40
Orbicularis
Dill.

CUPTHONG. Tiled: leaves oblong: betwixt indented and toothed; sea green; segments pretty broad. Saucers black; somewhat notched at the edge.—*Expanding into a circular tuft. From Dillenius.*

Lichenoides glaucum orbiculare, segmentis latiusculis, scutellis nigris. Dill. t. 24. f. 71.

On Oak, Beech, Elm, &c. *Dill.*

D. LEAFY.

Fringed
41
Ciliaris
Larger

CUPTHONG. Leafy, somewhat upright; segments strap-shaped fringed; saucers on fruit-stalks; scolloped—*Black.*

1. Of a brownish ash-colour, with sometimes a tinge of sea-green.

Lichenoides hispidum majus et rigidius, scutellis nigris. Dill. 150 t. 20. f. 43.

Lichenoides arboreum foliosum cinereum, scutellis nigris, foliorum extremitatibus hispidis et pilosis. Ray's Syn. 73.

Trunks of trees.

Smaller
Dill.

2. Smaller, more flexible, ash-coloured; saucers more numerous, pretty entire at the edge. *From Dillenius.*

Lichenoides hispidum minus et tenerius, scutellis nigris. Dillenius t. 20. f. 46.

Trees and stones.

Horny
42
Corneus
Dill.

CUPTHONG. Leafy (or rather horny) somewhat upright; segments oblong, betwixt toothed and fringed; diversified with roundish warts. *From Dillenius.*

Lichenoides corneum, marginibus eleganter fimbriatis. Dill. t. 29. f. 116.

On Snowdon, and on Berwyn, Derbyshire. *Dillenius.*

Obs. *It appears to have a very great affinity with the Fringed Cupinose.*

CUPTHONG. Leafy, ascending, jagged : borders raised, Eryngioleaved fringed—*Targets round, entire, on the surface of the leaves : whitish, brown, or purple. Sometimes the targets are at the ends of the leaves.* 43 *Islandicus*

1. *Lichenoides rigidum, eryngiifolia referens.* Ray's *Syn.* 77. Common *Dillenius* 209. t. 28. f. 111.

2. Leaves finer, and more curled.

Lichenoides eryngii folia referens, tenuioribus et crispioribus foliis. *Dillenius* 212. t. 28. f. 112. *Finer*

3. Smaller branches cylindrical, hollow within, not fringed—*Black lace resembling black lace—and yet notwithstanding this so remarkable a difference, they are only varieties of the same species. A variety of specimens has shewn how they insensibly run into one another.* *Black lace*

Coralloides tenuissimum nigricans, mundi mulberis instar textum. *Dillenius* 113. t. 17. f. 32.

Heaths and mountains.

The Icelanders boil it in broth, or dry it and make it into bread. They likewise make gruel of it to mix with milk ; but the first decoction is always thrown away, for it is apt to purge.

CUPTHONG. Leafy, ascending, jagged, curled, smooth, Snow pitted, white ; border raised ;—*generally of a snowy whitens ; never with any tinge of yellow.* Tubercles brown. 44 *Nivalis*

Lichenoides lacunofum candidum glabrum, Endiviæ crispæ facie. *Dillenius* 162. t. 21. f. 36.

Gravelly heaths.

CUPTHONG. Leafy ; jagged : blunt ; smooth. Pitted Lungwort. above, downy underneath.—*Targets at the edges.*

Lichen arborum. Gerard. 1566. 45

Pulmonarius

Lichenoides pulmonaceum reticulatum vulgare, marginibus peltiferis. *Dillenius* 212. t. 29. f. 113.

Lichenoides peltatum arboreum maximum. Ray's *Syn.* 76.

Muscus pulmonarius, sive Lichen arborum. Park. 1311.

Tree Liverwort. Tree Lungwort.

On trunk of trees, particularly Oak and Ash, on rocks, and sometimes on heaps of stones in shady places.

It is reckoned very efficacious in consumptive cases ; this opinion merits a further investigation—Boiled with woollen cloth it gives it a brown orange colour.

CUP-

Mealwarted
46
Scrobiculatus
Dill.

CUPTHONG. Leafy; jagged; border indented; curled; mealy; smooth above, diversified with targets, and mealy warts; downy underneath. — *Of a sea green, inclining to a sulphur colour above, somewhat pitted; light brown underneath; Down of a dirty brown. The leaf appears sometimes pierced with a number of holes, as if eaten through, which seem to have been the places where former warts have grown. It has a near affinity to the preceding species. From Dillenius.*

Lichenoides pulmoneum villosum, superficie scrobiculata et peltata. Dill. t. 29. f. 114.

Found by Mr Ran on Stones at Cockbush on the Sea side in Sussex, — at Dolgelle in Merionethshire. *Dill.* and on Rocks on Malvern-hills, just above Great Malvern (with the preceding species.) *St.*

Spongy
47
Spongiosus
Dill.

CUPTHONG. Leafy; jagged; segments strap-shaped; blunt. Targets above; spongy underneath. — *Segments very much resembling the horns of a Stag. From Dillenius.*

Lichenoides Damæ cornua referens, subius spongiosum. Dill. t. 29. f. 115.

On trees. *Dill.*

Branny
48
Furfuraceus

CUPTHONG. Leafy; drooping; as if sprinkled with bran: segments sharp; black and pitted underneath; — *White, or ash coloured above.*

Lichenoides cornutum amarum, desuper cinereum, inferne nigrum. Dm. 157. t. 21. f. 52.

Barks of trees, and pales.

Transparent
49
Decumbens
Hud.

CUPTHONG. Leafy; drooping; jagged: segments cloven at the end into three parts. Saucers brownish. *Hudson 449. — Of a jelly-like substance.*

Lichenoides gelatinosum, fuscum, Jacobææ maritimæ divisura. Dill. 140 t. 19. f. 25.

On rocks.

Blackish
50
Nigrescens
Hud.

CUPTHONG. Leafy; wrinkled; lobed, of a blackish green. Saucers tawney red, set thick together. *Hudson 450. — Small. Leaf between jelly-like and membranaceous; thin. Dillenius compares it to a bat's wing.*

Lichenoides gelatinosum membranaceum, tenue nigricans. Dill. 138. t. 19. f. 20.

Lichenoides saxatile membranaceum gelatinosum tenue nigrescens. Ray's Syn. 72.

Trunks of trees, rocks, and walls.

CUPTHONG. Leafy; rather flat; lobed; scolloped tar-Bladder
gets globular; inflated.—

Lichenoides tinctorium glabrum vesiculosum. Dill. 188. t. ⁵¹ Ampullaceus
24. f. 82.

Lichenoides saxatile tinctorium, foliis latioribus non pilosis,
vesiculas proferens. Ray's Syn. 74.
In hilly pastures.

CUPTHONG. Leafy; upright; compressed; branched; Mealy
with mealy warts on the edge—*disperſing a quantity of duſt.*

⁵²
Farinaceus

1. Leaves of a whitish ash-colour, with narrow segments.

^{Whitiſh}

Lichenoides segmentis angustioribus, ad margines verrucosis
et pulverulentis. Dill. 172. t. 22. f. 63.

Lichenoides arboreum ramosum, cinereo-candicans, seg-
mentis angustioribus. Ray's Syn. 76.

2. Leaves of a greenish ash-colour, with narrow segments.

^{Greeniſh.} Hud.

Lichenoides arboreum ramosum, cinereo-vireſcens segmentis
angustioribus, circa margines crispis. Ray's Syn. 76.

3. Leaves with broader segments; rough: with larger warts, ^{Broad-leaved}
containing a great quantity of duſt. Hud.

Lichenoides non tubulosum Platydasyphyllon tuberculis pul-
verulentis donatum. Ray's Syn. 66.

Trunks of trees; whitest on the ſloe.

CUPTHONG. Leafy; upright; strap-shaped; branched; Channelled
pitted; convex; with sharp points at the ends,—*Saucers nume-*
rous; terminating the branches. Leaves of a greenish ash-colour. ⁵³ Calicaris

Lichenoides coralliforme rostratum et canaliculatum. Dill. 170.
t. 23. f. 62.

Lichenoides arboreum ramosum, segmentis, angustioribus
cinereo-vireſcentibus. Ray's Syn. 76.

Rocks, and barks of trees.

CUPTHONG. Leafy; straight; oblong; spear-shaped; some- Ash
what jagged; pitted; smooth; saucers on short fruit-stalks,—*mostly*
of a pale straw colour, but sometimes of the same colour with the leaf. ⁵⁴ Fraxineus.
Leaf of a greenish ash-colour, of a rigid consistence.

Lichenoides longifolium rugosum rigidum. Dill. 165. t. 22.
f. 59.

Lichenoides arboreum ramosum scutellatum majus et rigidius,
colore virescente. Ray's Syn. 75.

Trunks of trees, on Poplar, Apple, &c. but chiefly on Oak
and Ash.

CUP-

leafy

55
Cæsaræensis
Dill.

CUPTHONG. Leafy ; nearly straight ; jagged ; somewhat pitted. Segments strap-shaped ; blunt.—*Often eleven at the ends. Saucers feathered over the surface, and along the edges of the leaf.* From Dillenius.

Lichenoides fuciforme tinctorium, corniculis longioribus et obtusioribus. Dill. t. 22. f. 60.

Jersey rocks. *Dill.*

Blackthorn

56
Prunafur
Common

CUPTHONG. Leafy ; rather upright ; pitted ; white and downy underneath ;—*Branched like the horns of a Deer.*

1. *Lichenoides cornutum, bronchiale molle subtus incanum. Dill. 160. t. 21. f. 55.*

Lichenoides arboreum ramosum majus et mollius, colore candicante. Ray's Syn. 75.

White

2. White ; segments narrower.

Lichenoides corniculatum candidum molle, segmentis angustis. Dill. 150. t. 21. f. 54.

(1) On most trees, but chiefly on the Blackthorn. On the Willow soft, Whitest on the Blackthorn. (2) Lippock Heath Hampshire. Aug. *Dill.*

It has a remarkable property of imbibing and retaining odours and is therefore the basis of many perfumed powders.

Ragged

57
Lacerus
Dill.

CUPTHONG. Leafy : rather upright ; pitted ; somewhat jagged!—*Margin divided into a number of narrow segments.* From Dillenius.

Lichenoides lacunosum lacerum, latius et angustius. Dill. t. 21. f. 57.

About Beddington, and Carshalton Surry ; Slinford Sussex ; and Oxford Woods. *Dill.* And near Worcester. *Str.*

Juniper

58
Juniperinus

CUPTHONG. Leafy ; jagged ; curled ; deep yellow ; with livid coloured targets.—*Resembles the Gold-tpangled CUPTHONG but is of a yellowish green with brown targets, and the leaves loose and somewhat upright.*

On boughs and trunks of trees.

The Rustics in Sweden esteem it a specific for the Jaundice.—They use it to dye their woollens yellow.

CUPTHONG. Pale green; wrinkled, and waved at the edge,—*Of a yellowish hue inclining to sea green; black and smooth underneath. Can hardly be called leaty, adhering close to the substance on which it grows. Saucers seldom to be found.* Rose-leaved
59
Caperatus

Lichenoides caperatum, rosaceæ expansum, e sulphureo virens. Dill. 193. t. 27. f. 97.

Lichenoides crusta foliosa, ex cinereo et luteo virecente, inferne nigra et lævi. Ray's Syn. 73.

On stones, and trees.

It dyes woollens of an orange colour.

CUPTHONG. Leafy; depressed, lobed; smooth; border curled; mealy.—*Leaves thinner than paper; of a mixture of white, ash-colour, and sea green; black underneath.* Shining
60
Glaucus

Lichenoides endiviæ foliis crispis splendentibus, subtus nigricantibus. Dill. 192. t. 25. f. 96.

Hilly pastures and heaths.

CUPTHONG. Leafy; depressed; of a jellylike substance; divided into lobes thicker than the rest of the leaf. Of a brownish green.—*Tubercles dispersed near the margin. From Dillenius.* Brownish
green
61
Fusco-virens
Dill.

Lichenoides gelatinosum lobis crassioribus fusco-viridibus. Dill. t. 19. f. 22.

Rocks near Marston in the neighbourhood of Oxford. Winter and Spring. *Dill.*

CUPTHONG. Leafy; of a jellylike substance. Tubercles turban-shaped; in clusters; larger than the leaves; root leaves very small, like clear jelly.—*Tubercles on short fruit-stalks; edged with a blunt border.* Cluster
62
Fascicularis

Lichenoides gelatinosum palmatum, tuberculis conglomeratis. Dill. 141, t. 19. f. 27.

Woods and garden walks.

E. LEATHER-LIKE.

CUPTHONG. Leathery, creeping, lobed. Targets on the edge, facing downwards—*Reddish brown. Leaves broken.* Livid
63

Lichenoides fuscum, peltis posticis ferrugineis. Dill. 206. t. 28. f. 105. Resupinatus

Lichenoides Saxatile fuscum, peltis in averfa foliorum superficie locatis. Ray's Syn. 77.

On trees, pebbles, and on the ground.

CUP-

Seagreen
64
Aphotus

CUPTHONG. Leathery; creeping; flat; with blunt lobes; sprinkled with watery excrescences; targets horizontal; on the edge—*black*.

When dry the colour is sea-green, but when fresh a full green.

This country people make an infusion of it in milk and give it to children that have the Thrush. In large doses it operates by purging and vomiting, and destroys worms.

Liverwort
65
Caninus

CUPTHONG. Leathery; creeping; flat; with blunt lobes; woolly and veiny underneath. Targets on the edge, ascending.—*Leaves covered with a kind of ash-coloured mealiness.*

Lichenoides digitatum cinereum, Lactucæ foliis sinuosis. Dill. 200. t. 27. f. 102.

Lichenoides peltatum terrestre cinereum majus, foliis divisis. Ray's Syn. 76.

Ash coloured ground Liverwort.

Heaths, woods and hedges.

This is the basis of the famous powder recommended by Doctor Mead to prevent madness, and recorded in our dispensatories under the name of Pulvis Antilyffus.

Lettuce-
leaved
66
Lactucæfolius
Dill.

CUPTHONG. Leathery; creeping; with blunt lobes; border curled; woolly underneath; targets on the edge, ascending.—*Leaf of a reddish colour above, not veiny underneath.* From *Dillenius*.

Lichenoides digitatum rufescens, foliis Lactucæ crispis. Dill. t. 27. f. 103.

Heaths, hedges, and woods. *Dill.*

Smallshield
67
Sylvaticus

CUPTHONG. Leathery; creeping; jagged; pitted. Targets on the edge; ascending—*Small.*

Lichenoides polytrichides villosus et scabrum, peltis parvis. Dill. 193. t. 27. f. 101.

In woods.

Many-finger-
ed
68
Polydaetylos
Dill.

CUPTHONG. Leathery; creeping; jagged; veiny and woolly underneath; ends of the segments divided into many shallow clefts, supporting as many ascending targets—*Leaf ash-coloured.* From *Dillenius*.

Lichenoides cinereum polydactylon. Dillenius t. 27. f. 107.
About Perfedgoed-Houie, near Bangor. *Dill.*

Double finger-
ed
69
Didactylos
Dill.

CUPTHONG. Leathery; membranaceous; transparent; jagged; segments cloven, each segment supporting two targets—*Veiny and woolly underneath.* From *Dillenius*.

Lichenoides membranaceum pellucidum, peltis digitatis geminatis. Dill. t. 27. f. 108.

Rumbles-Mere near Kelwick, Yorkshire. *Dill.*

CUP.

CUPTHONG. Leathery; creeping; flat; not veiny underneath; targets on the edge; horizontal—*Brown.* Flat shield 70

Lichenoides subfuscum, peltis horizontalibus planis. Dill. Horizontalis 205. t. 28. f. 104.

In woods. Winter and Spring. *Dill.*

CUPTHONG. Leathery, creeping; lobed; smooth; black underneath. Saucers on fruit-stalks entire.—*Wooly underneath; of a sea green, or ash colour above.* Pearl 71
Perlatus

Lichenoides glaucum perlatum, subtus nigrum et cirrosum. Dill. 147. t. 20. f. 39.

Trunks of trees.

CUPTHONG. Leathery; creeping; circular; targets sunk below the surface of the leaf, forming a kind of bag beneath. Pouched 72
Saccatus

Lichenoides Lichenis facie, peltis acetabulis immerfis. Dill. 221. t. 30. f. 121.

Lichen immerfus. Hudson 453.

On rocks.

F. SOORY,—adhering to the substance on which they grow only in one point.

CUPTHONG. Hunched; dotted; deep yellow underneath —Smooth; ash coloured on the upper surface. Cloudy 73

Lichenoides coriaceum nebulosum cinereum punctatum subtus Miniatus fulvum. Dill. 223. t. 30. f. 127.

On rocks and mountains.

CUPTHONG. Wrinkled; blackish brown; sprinkled with black warts; wooly underneath.—*Of a rigid consistence.* From Black-warted 74
Dillenius. Verrucosus

Lichenoides rugosum durum pullum peltis albis verrucosis. Dill. 118.

Snowdon and Berwyn Derbyshire. *Dill.*

CUPTHONG. Very hairy underneath—*Leaf very broad; Fleecy sprinkled with warts.*

Lichenoides coriaceum, latissimo folio umbilicato et verrucoso. Velleus 75
Dill. 545. t. 82. f. 5.

On rocks.

The Canadian Indians eat it when pressed by hunger.

Singed

76
Pustulatus

CUPTHONG. Pitted underneath: sprinkled over with a black meal—*Ash-coloured above; black underneath.*

Lichenoides pustulatum cinereum et veluti ambustum. Dill. 226. t. 30. f. 131.

On rocks facing the South.—Malvern Hills.

This may be converted into an exceedingly black paint; and a beautiful red colour may be prepared from it.

Smutted

77
Deustus

CUPTHONG. Of an even surface on both sides.—*Ash-coloured above with black flatted swarts; so brittle that unless in a moist state it can hardly be separated entire from the rocks on which it grows.*

Lichenoides coriaceum cinereum, peltis atris compressis. Dill. 218. t. 30. f. 117.

Lichenoides saxatile, foliis minus divisis, cinereo-fuscis. Ray's Syn. 73.

St. Vincent's Rock near Bristol.

Smooth

78
Polyphyllus

CUPTHONG. Composed of several leaves; even on both sides; greenish black and scolloped—

Lichenoides tenue pullum, foliis utrinque glabris. Dill. 225. t. 30. f. 129.

On high mountains.

Lead-coloured

79
Luridus
Dill.

CUPTHONG. Composed of several leaves; of an even surface on both sides; lead-coloured; downy; indented underneath.—*Very much resembles the preceding species.* From Dill.

Lichenoides imbricatum luridum. Dill. t. 30 f. 128.

On stones in a rivulet near a mill by Perfedgoed-house near Bangor, also in a rivulet in the county of Radnor. *Dill.*

Fibrous

80
Polyrrhizos

CUPTHONG. Composed of several leaves, of an even surface on both sides; fibres numerous.—*Leaves dirty brown, or greenish ash-colour; black and hairy underneath.*

Lichenoides pullum superne et glabrum, inferne nigrum et cirrosum. Dill. 226. t. 30. f. 130.

On high mountains.

G. GLASS-SHAPED.

Mushroom

81
Peziziformis
Dill.

CUPTHONG. Cup simple; imperfect; convex at the top; with a hollow in the middle; brown.—*Has a near affinity to the Powdered, Heath, and Brown Cupthongs but the tubercles do not rise from a thin ground or crust, but from Leaves like those of the Glass-shaped Cupthongs, to which it seems naturally to belong.*

Coralloides fungiforme fuscum, basi foliaceum. Dill. t. 14. f. 2.
Hampstead Heath. *Dill.*

CUP-

CUPTHONG. Cup simple; very entire; fruit-stalk cylindrical; tubercles scarlet.—*Cups greenish grey, sometimes springing out of one another.* Red 82
Cocciferus

Coralloides scyphiforme, tuberculis coccineis. Dill. 82. t. 14. f. 7.

Lichenoides tubulosum pyxidatum, tuberculis amene coccineis. Ray's Syn. 69.

On heaths and in shady places. November—February.

The scarlet tubercles on the affusion of Ley, strike a durable purple.

CUPTHONG. Cup simple; shorter than the leaves. Tubercles scarlet.—*Cups fringed with leaves; not always shorter than the leaves.* Radiated 83
Cornucopioides

Coralloides scyphiforme, marginibus radiatis et foliatis. Dill. 83. t. 14. f. 9.

Lichenoides pyxidatum, marginibus eleganter foliatis. Ray's Syn. 69.

On heaths. Feb.

CUPTHONG. Cup simple; shorter than the leaves; brown within; on very short fruit-stalks;—*margin entire.* Short-footed 84

Coralloides scyphis humilibus, intus fuscis. Dillenius t. 14. f. 11. Humilis Dill.

Charlton, Woolwich. January, February. *Dill.*

CUPTHONG. Cup simple; a little scolloped; tubercles brown. Common 85

1. *Coralloides scyphiforme, tuberculis fuscis. Dillenius 79. t. 14. f. 6. Pyxidatus Simple*

Lichenoides tubulosum pyxidatum cinereum. Ray's Syn. 69.

Muscus pyxoides terrestris. Raub. pin. 361.

Heaths, woods, walls, and ditch-banks.

2. *Cups springing out of one another, sometimes from the edge, and sometimes from the center. Proliferous*

Lichenoides tubulosum pyxidatum proliferum. Ray's Syn. 69.

3. *Cups springing out of one another, with brownish black tubercles. Black-tipt. Hed.*

Lichenoides tubulosum pyxidatum, tuberculis fusco nigris, proliferum. Ray's Syn. 69.

Heaths, woods, walls and ditch-banks.

FLOWERS INCONSPICUOUS.

Indented

86

Fimbriatus

Simple

CUPTHONG. Cup simple; edged with little teeth; fruit-stalk cylindrical.—

1. *Coralloides scyphiforme gracile, marginibus serratis.* Dill. 84. t. 14. f. 8.

Lichenoides tubulosum pyxidatum, marginibus serratis. Ray's Syn. 69.

Proliferous

Hud.

2. Cups springing out of one another.

Lichenoides pyxidatum proliferum, marginibus serratis. Ray's Syn. 69.

Woods and heaths.

Trumpet

87

Filiiformis

Hud.

CUPTHONG. Cup simple; very entire; long and slender. Tubercles brown. Hudson 456. leaves jagged.

Lichenoides tubulosum pyxidatum exiguum, fusco-virens. Ray's Syn. 70.

Coralloides scyphis gracilibus tubiformibus, pedicularis folio. Dillenius 85. t. 14. f. 10.

Walls and heaths.

Proteus

88

Polymorphos

Dill.

CUPTHONG. Branched; leafy—Leaves nearly upright; jagged; curled. From Dillenius. This plant assumes very different forms, sometimes consisting of a simple leaf, with a number of little cups rising from its surface. At other times it appears like a shrub, the ends of the branches running into cups, and edged with tubercles. Again, resembling each, and yet still different, it has a stem which branches into leaves. This proves them to be only varieties of one common species. From this circumstance I have ventured to call it the Lichen Polymorphos or the Proteus CupTHONG, though Hudson has already named one of its varieties, since Linnæus it is probable, would not allow of it, as it is the name of one of the subdivisions,—the Leafy [*Foliaceus*.]

Branched. Dill.

1. Very much branched; leaves at the divisions of the stem; branches terminating in cups; cups toothed, edged with tubercles.

Coralloides scyphiforme, foliis alcierniformibus cartilagineis. Dill. t. 14. f. 12. B.

Snowdon. Dill.

Branching

Dill.

2. Stem branched; branches running into leaves.—Leaves upright, with winged clefts.

Dillenius ib. D.

Trowbridge. Dillenius.

Leafy

Foliosus

Hud.

3. Leaves nearly upright, jagged, curled; cups very short, conical, on the surface of the leaf. Hudson 457.

Dillenius ib. A.

Lichenoides cartilagineosum, tubulis et pyxidulis exiguis. Ray's Syn. 70.

Blackheath. Dill. Mountainous heaths. Hud.

CUP.

CUPTHONG. Branched; thread-shaped; cups edged with little teeth—*Some of the branches tapering to a point, others terminated by a cup, tipped with bright brown tubercles.* Tall
89
Gracilis

Coralloides scyphiforme serratum elatius, caulibus gracilibus glabris. Dillenius 88. t. 14. f. 13.

Lichenoides pyxidatum cinereum elatius, ramulis pyxidatum definitibus. Ray's Syn. 60.

Mountainous heaths, and stoney places.

CUPTHONG. Branched; branches cylindrical; cups pretty entire, edged with round brown tubercles—*Tubercles numerous.* Branching
90
Cups sometimes simple. From Dillenius. Ramulosus
Dill.

Coralloides parvum ramosum, tuberculis fuscis. Dillenius t. 15 f. 20.

Woolwich-heath. Feb. Dill.

CUPTHONG. Very much branched; branches cylindrical; cups entire, edged with round tubercles.—*Tubercles numerous, scarlet.* Fingered
91
Digitatus

Coralloides ramulosum, tuberculis coccineis. Dillenius 96. t. 15. f. 10.

Lichenoides coralliforme, apicibus coccineis. Ray's Syn. 68.

Heaths and woods, and decayed roots of trees. Feb.

CUPTHONG. Very much branched; inflated; cups tooth-ed; tubercles brown. *Hudson 457. Stem nearly cylindrical, expanding into a cup, which branches out into a number of sub-divisions, which terminate in their turn in other cups, divided into teeth, and tipped with brown tubercles.* Crusted
92
Ventricosus
Had.

Coralloides cornucopioides incanum, scyphis cristatis. Dill. 94. t. 15. f. 17.

Lichenoides tubulosum cinereum, valde crustaceum, ramulis brevioribus et crebrioribus ex acetabulis enascentibus. Ray's Syn. 68.

In woods.

CUPTHONG. Nearly simple; somewhat inflated; cups entire.—*Asb-coloured. Some of the branches tapering to a point, others terminating in imperfect cups. Stems mostly of an equal thickness throughout.* Plain
93
Cornutus

Coralloides vix ramosum, scyphis obscuris. Dillenius 90. t. 15. f. 14.

Lichenoides tubulosum cinereum, non ramosum. Ray's Syn. 68.

On heaths. Nov.—Feb.

Serrated
94
Deformis

CUPTHONG. Nearly simple; somewhat inflated; cups toothed;—*slenderest at the base; smooth but hoary.*

Coralloides crassius subincanum, calycibus dentatis. Dillenius 95. t. 15. f. 18.

Lichenoides tubulosum minus ramosum cauliculis crassioribus difformibus. Ray's Syn. 68.

On heaths.

Horn-tipt
95
Corrigerus
Linn.

CUPTHONG. Nearly simple; somewhat inflated; cups with many clefts;—*Segments mostly oval shaped, pretty long; upright; some tapering to a point, others tipped with tubercles. Stems sometimes branched; cylindrical; tapering towards the base. From Dillenius.*

Coralloides scyphiforme cornutum. Dillenius t. 15. f. 16.

In woods, in Enfield-Chace. *Dill.*

H. SHRUBBY.

Reindeer
96
Rangiferinus

CUPTHONG. Shrubby; perforated; very much branched; little branches nodding.—*There is an opening or perforation between every division of the stem and branches. Soft when young, but afterwards of a stoney hardness.*

White

1. With whitish tubercles.

Coralloides montanum fruticuli specie, ubique candicans. Dillenius 107. t. 16. f. 29.

Lichenoides tubulosum ramosissimum, fruticulis specie, candicans. Ray's Syn. 66.

Brown-tipt

2. With brown tubercles.

Coralloides fruticulis specie candicans, corniculis rufescentibus. Dillenius 110. t. 16. f. 30.

Lichenoides tubulosum ramosissimum, fruticulis specie, candicans, corniculis rufescentibus. Ray's Syn. 67.

Woods, heaths, and mountains.

The Laplanders could not exist without this plant. It is the food of the Rein-deer, and the Rein-deer supplies every necessary of life for the contented people of that inhospitable climate.

CUPTHONG. Shrubby; perforated; little branches very short; sharp—

1. Small: not much more than an *Inch* long, whence its Latin name. 97
Urcialis
Smaller

Coralloides perforatum minus, molle et tenue. Dillenius 99.

t. 16. f. 22.

Lichenoides tubulosum, cauliculis mollioribus et crassioribus, minus. Ray's Syn. 67.

2. Considerably larger; more than twice as large; stem and branches thicker; in every other respect almost exactly similar. Larger
Dill.

Coralloides perforatum majus, molle et crassum. Dill. t. 16. f. 21.

Heaths and hills. (2.) Leath-hill, Surry, and Peter's-field-heath, Hampshire. *Dill.*

CUPTHONG. Shrubby; tubular; very much branched; Prickly thorny. Little branches with finger-like divisions, tipped with tubercles. *Hudson 459.*—Of an ash-coloured brown. Spinosus
Hed.

Coralloides sparsum, caulibus tortuosis et spinosis. Dillenius t. 16. f. 25.

Lichenoides tubulosum ramosum rigidius, majus et crassius, cinereo-fuscum. Ray's Syn. 16.

Muscus coralloides saxatilis cervi cornua reserens. Barb. pin. 351.

Heaths.

CUPTHONG. Shrubby; tubular; branched; branches up-right; forked. *Hudson 458.*—Ash-coloured; sometimes covered with crustaceous leaves. 99
Furcatus
Hud.

Coralloides e paniculis brevioribus et crebrioribus. Dillenius 102. t. 16. f. 27.

Lichenoides tubulosum cinereum, ramosius et crustaceum. Ray's Syn. 67.

Heaths and high hills.

CUPTHONG. Shrubby; somewhat forked: branches undivided; awl-shaped—Tubercles small, brown, globular, at the ends of the branches. Stem sometimes fringed with a few scattered crustaceous leaves. Horned
100
Subulatus

Coralloides corniculus longioribus et rarioribus. Dillenius 102. t. 16. f. 16.

Lichenoides tubulosum cinereum, minus crustaceum, minusque ramosum. Ray's Syn. 67.

Muscus corniculatus. Gerard. 1560. Park. 1308.

Heaths.

- Madrepore
101
Madreporeæ-
formis
Dill.
CUPTHONG. Shrubby; little branches very short; blunt
—*Stems brittle, tubular, scarcely divided; growing close together,
and forming a tuft resembling Organ Coral. From Dill.*
Coralloides minimum fragile, madreporeæ insular nascent. Dill.
t. 16. f. 28.
Bagshot near Farnham. Spring and Winter. Dill.
- Round-headed
102
Globiferus
CUPTHONG. Shrubby; solid; smooth. Tubercles glo-
bular; hollow; at the ends of the branches—*black within, ash-
coloured without. Little branches nearly cylindrical; sharp and forked
at the ends. Sometimes very much branched.*
Coralloides cupressiforme, capitulis globosis. Dill. 117. t. 17.
f. 35.
Lichenoides non tubulosum, ramulis scutellis nigris termi-
natis. Ray's Syn. 66.
Lichen globosus. Hudson 460.
Rocks and mountains.
- Oarweed
103
Fucoides
Dill.
CUPTHONG. Shrubby; solid; smooth. Tubercles flattish;
at the ends of the branches.—*Black. From Dillenius.*
Coralloides corniculatum, fuci tenuioris facie. Dill. t. 17.
f. 37.
On Snowden. Dill.
- Thorny
104
Aculeatus
Dill.
CUPTHONG. Shrubby; solid; stem and branches prickly.
—*Brown.*
Coralloides fruticuli specie fuscum, spinosum. Dillenius t. 17.
f. 31.
Stieporstone-hill Shropshire, heaths near London, and Cam-
bridgeshire hills. Dill.
- Woody
105
Paschalis
CUPTHONG. Shrubby; solid; covered with little crusta-
ceous leaves—*Which make a beautiful appearance, especially if
viewed through a glass that magnifies a little.*
Coralloides crispum et borytorne alpinum. Dill. 114. t. 17.
f. 33.
Lichenoides non tubulosum cinereum ramosum, totum crusta-
ceum. Ray's Syn. 65.
High mountains.
- Brittle
106
Fragilis
CUPTHONG. Shrubby; solid; little branches cylindrical,
blunt—*So brittle as not to be gathered but when it is moist. Branches
greyish brown. Tubercles black.*
Coralloides alpinum, corallinæ minoris facie. Dill. 116. t. 17.
f. 34.
Lichenoides non tubulosum ramosissimum, fruticuli specie
cinereo fuscum. Ray's Syn. 63.
Mountains and high moorlands.

CUP-

CUPTHONG. Shrubby; solid; somewhat branched. Tu-¹⁰⁷bercles hollow; on the sides of the branches. *Hudson.* 460.—¹⁰⁸
No appearance of leaves. Siliquosus

Coralloides fasciculare, verrucosum et veluti siliquosum. *Dill.*
119. t. 17. f. 38.

On rocks.

I. THREADSHAPED.

CUPTHONG. Thread-shaped; pendant: branches matted Hairy¹⁰⁸ together. Saucers radiated.—

Usnea vulgaris, loris longis implexis. *Dill.* 56. t. 11. f. 1. Plicatus

Muscus arboreus, *Usnea officinarum*. *Baub. pin.* 361. *Ray's*
Syn. 64.

Muscus quernus. *Gerard.* 1558.

Muscus arboreus, vulgaris et quercinus. *Park.* 1311.

Tree Moss.

On trees in thick woods.

CUPTHONG. Thread-shaped; pendant; somewhat jointed. Bearded¹⁰⁹ Branches expanding—*Ash-coloured*.—

Usnea barbata, loris tenuibus fibrosis. *Dill.* 63. t. 12. f. 6. Barbatus

Muscus capillaceus longissimus. *Baub. pin.* 361.

On trees in woods.

CUPTHONG. Thread-shaped; pendant; compressed at Fennel¹¹⁰ the divisions of the branches.—*Blackish grey*.—

Usnea jubata nigricans. *Dill.* 64. t. 12. f. 7.

Jubatus

Muscus corallinus saxatilis fœniculaceum. *Ray's Syn.* 65.

Wood and rocks.

It is used to cure ulcerations of the skin; and it is eaten by
Reindeer.

CUPTHONG. Thread-shaped; very much branched; Woolly¹¹¹ drooping; matted, opaque,—*Like black Wool*.—

Usnea lanæ nigrae instar, saxis adhærens. *Dill.* 66. t. 13. f. 8. Lanatus

Muscus coralloides lanæ nigrae instar saxis adhærens. *Ray's*
Syn. 65.

On rocks.

CUPTHONG. Thread-shaped; branched; drooping. Wiry¹¹² Branches straddling; serpentine and somewhat matted.—

Usnea rigida, horsum vorsum extensa. *Dill.* 66. t. 13. f. 10. Chalybeiformis

Muscus caule rigido instar fili chalybei. *Ray's Syn.* 65.

Trunks of trees, stones, and decayed wood.

Hair spangled
 113
 Scutelliterus
 Dill.

CUPTHONG. Thread-shaped ; branched ; drooping ; rough with hair : with black saucers on the sides, and at the ends of the branches. From Dillenius.

Lichenoides subhirsutum teres, scutellis parvis nigris. Dill. t. 21. f. 51.

On the Sloe-tree near the sea. *Dill.*

Rough
 Hirtus

CUPTHONG. Thread-shaped ; very much branched ; upright. Tubercles mealy ; scattered.—

Usnea vulgatissima tenuior et brevior, sine orbiculis. Dill. 67 t. 13. f. 12.

Muscus ramosus. Gerard. 1372, Ray's Syn. 65.

Woods and hedges.

Gold
 114
 Vulpinus

CUPTHONG. Thread-shaped ; very much branched ; upright ; branches nearly of the same length ; angular ; angles unequal.—*Of a Citron colour.*

Usnea capillacea citrina, fruticuli specie. Dill. 73. t. 13. f. 16.

Muscus aureus tenuissimus. Ray's Syn. 65.

In woods.

In Norway they mix this plant with powdered glass and strew it upon dead carcases to poison Wolves.—It dyes woollens yellow.

Jointed
 115
 Articulata

CUPTHONG. Thread-shaped ; jointed ; little branches very slender, dotted—

Usnea capillacea et nodosa. Dill. 60. t. 11. f. 4.

Muscus arboreus nodosus. Baub. pin. 361- Ray's Syn. 65.

Muscus arboreus nodosus, sine geniculatus. Park, 1311.

In woods, on Beech and Hazel.

Flowering
 116
 Floridus

CUPTHONG. Thread-shaped ; branched ; upright ; saucers radiated—

Usnea vulgatissima tenuior et brevior, cum orbiculis. Dill. 69. t. 13. f. 13.

Muscus arboreus cum orbiculis. Baub. pin. 361, Ray's Syn. 65.

Muscus ramosus floridus. Gerard. 1560,

Woods, thickets, and old hedges.

426 POWDERWORT. 1208 Byffus.

Fibres fimple ; uniform ; like foft wool, or duft.

* *Thready.*

POWDERWORT. Threads downy ; swimming upon water Paper
—and forming a kind of thin cruft upon the furface. Colour green ¹
or white. It rifes in the middle of fummer, and mixes with the water Flos Aquæ
fo as to render it turbid and unfit to drink ; at night it falls down to-
wards the bottom.

Byffus latiffima, papyri inftar fupra aquam expanfa. Ray's
Syn. 57. Dill. 1.
Stagnant waters.

POWDERWORT. Woolly ; Violet coloured ; growing Violet-colour-
upon wood — ed

Byffus lanuginofa violacea, lignis adnafcens. Dill. 4. t. 1. ²
f. 6. Phosphorea

Byffus pulverulenta violacea lignis adnafcens. Ray's Syn. 56.
On rotten wood.

POWDERWORT. Hair-like ; green. Threads branched — Velvet
Byffus tenerrima viridis velutum referens. Ray's Syn. 56. Dill. ³
7. t. 1. f. 14. Velutina

On the barks of trees, on the ground in shady places and gravel
walks. Winter and Spring.

POWDERWORT. Hair-like ; powdery ; flowers fattered. Saffron-co-
Threads fimple and branched.—Grows in little globular tufts. loured
When dry it turns of an afh colour. ⁴

Byffus petræa, crocea glomerulis lanuginofis. Dill. 8. t. 1. f. 16. Aurea
Byffus aureus Derbienfis humifufus. Ray's Syn. 56.
On rocks.

POWDERWORT. Threads branched ; of a yellowifh Brown
brown. Hudfon 487.—Retains its colour when dry. Of a more ⁵
rigid confiftence than the preceding. Fulva

Byffus arborea crocea fibrofa. Ray's Syn. 57. Dill. 9. t. 1. Hud.
f. 17.

On rotten moift wood.

POWDERWORT. Threads branched, ftiff, black ; grow- Black
ing on ftone. Hudfon 487. ⁶

Byffus petræa nigerrima fibrofa, Ray's Syn. 57. Dill. t. 1. Nigra
f. 18. Hud.

On rocks,

POWDER.

Bearded

POWDERWORT?

Barbata

BYSSUS?

Hud.

Threads upright; ends branched, *Hudson* 488.—Of a *tawny* colour.

Byssus arborea barbata, fulvi coloris. *Ray's Syn.* 57. *Dill.* 9. t. 1. f. 19.

On rotten wood.

Grey

POWDERWORT. Threads very much branched; branches whitish, in bundles. *Hudson* 488.—Branching in form of a tree or shrub. Of a substance resembling Mould; of a livid white.

Candida

Byssus tenerrime villosa et elegantissime ramulosa. *Ray's Syn.*

476. t. 23. *Dill.* 7. t. 1. f. 15.

On rotten wood and leaves.

Bristle

POWDERWORT. Hair-like; perennial; ash-coloured; —adhering tenaciously to rocks or walls.

Cryptarum

Byssus albida brevis setacea. *Dill.* 10. t. 1. f. 20.

In vaults.

* * Powdery.

Black powde

POWDERWORT. Powdery; black—

On very old walls.

Antiquitatis

POWDERWORT. Powdery; ash-coloured; covering the surface of rocks.—

Stone

On rocks.

Saxatilis

It will grow upon the barest rocks and stones.

Yellow

POWDERWORT. Powdery; yellow. Growing upon wood.—At first sight one might suppose it to be the Gold spangled Cupthong in its younger state, but it has been observed to continue the same for many years. Like that too in shady places, it is sometimes of a greenish colour.

Candelaris

Byssus pulverulenta flava lignis adnascens. *Ray's Syn.* 56. *Dill.* 2. t. 1. f. 4.

Barks of trees, and wood.

Green

POWDERWORT. Powdery; green—

Botryoides

Byssus botryoides saturate virens. *Ray's Syn.* 56. *Dill.* 3. t. 1. f. 5.

On barks of trees, walls, pales, and on the ground in damp shady situations.

POWDER.

POWDERWORT. Powdery ; white ; like scattered meal.— Mealy
Byssus pulverulenta incana, farinæ instar strata. Ray's Syn. 14
 56. *Dillenius*, 3. tab. 1. f. 3. Incana
 On a gravelly soil, on the sides of roads and ditches, on Moss,
 and in damp shady situations, in Autumn and Winter.

POWDERWORT. Betwixt powdery and crustaceous ; very White
 white.
Byssus candidissima, calcis instar Muscos vestiens. *Dillenius*, Lactea 15
 t. 1. f. 2.
 On moss, and barks of trees.

427 STARJELLY. 1204 Tremella.

SUBSTANCE. Uniform ; transparent ; membranaceous ;
 jelly-like or leafy.

FLOWERS. Scarce perceptible, in a jelly-like substance.
Syst. Nat.

Obs. It differs from the Cupthong in having neither tubercles nor
 saucers.

STARJELLY. Plaited and waved.—Greenish or yellowish.
Tremella terrestris sinuosa pinguis et fugax. *Dillenius*, 52. Starfall 1
 t. 10. f. 14. Noctoc
Ulva terrestris pinguis et fugax. Ray's Syn. 64.
 Tar-slough.

In pastures after rainy seasons, in gravelly soil, on the tops of
 hills, and on gravel walks. Spring and Autumn.

Obs. *Micheli* describes the seeds as lying in the form of little strings
 of beads coiled up within the folds of the plant, and only to be disco-
 vered in the microscope.—It is supposed by the country people to be the
 remains of a meteor or falling star.

STARJELLY?

TREMELLA?—A white fungous matter, of a uniform sub- Snowy
 stance, like large flakes of snow, or fleeces of the whitest wool, 2
 —hanging down from the beams of wine-vaults. It is of a moist Nivea.
 watery nature, and upon dissolving and drying it by heat, it runs Ray
 into a tough membranaceous matter of a fungous smell, which at length
 turns to a substance like touchwood, and crackles in the fire. From
 Ray.

Fungus niveus aqueus, lignis cellarum vinariarum. Ray's Syn.
 25.

Common in moist wine-vaults in London.

Obs. This substance seems to partake of a middle nature between
 the Fungus and the Starjelly.

STAR-

Witches-
butter

3
Nigricans
Dill.

STARJELLY. Pitted; blackish; of a firmer consistence, and longer duration than the preceding. *From Dillenius*

Tremella arborea nigricans, minus pinguis et fugax. Dillenius
t. 10. f. 15.

On the bark of trees. *Dill.*

Tender

4
Tenerrima
Dill.

STARJELLY. Curled and wrinkled; extremely tender; green. *From Dillenius.*

Tremella terrestris tenera, crispa. Dillenius, t. 10. f. 12.

On the ground, on walls and hedges in the shade. Jan.—Feb.

Bluehorn

5
Ceranoides
Dill.

STARJELLY. Flattish; wrinkled; jagged at the edge. Segments indented,—*resembling flag's horns.* *From Dillenius.*

Tremella palustris gelatinosa damæ cornuum facie. Dillenius
t. 10. f. 10.

Conserva gelatinosa damæ cornua representans. Ray's Syn.
60.

In the ditches of a field near Chichester, Sussex, without the East gate. *Dill.*

Jagged

6
Laciniata
Dill.

STARJELLY. Jagged; pitted; segments long; narrow; waved—*somewhat resembling in form the Black Thorn Cup-thong.* *From Dillenius.*

Tremella terrestris cornuta. Dillenius, t. 10. f. 13.

On the ground, Endfield Chace, and near Southgate. April.
Dill.

Transparent

7
Lichenoides

Endive-leaved

STARJELLY. Upright; flat; curled and a little jagged at the edge,—*brownish, and so brittle as hardly to bear separation from the substance on which it grows.*

1. *Lichenoides pellucidum, Endiviæ foliis tenuibus crispis. Dillenius, 143, t. 10. f. 21.*

Lichenoides saxatile tenue rufescens. Ray's Syn. 77.

Small

Lin. and Dill.

2. Leaves very small; upright; growing close together in a tuft; wedge-shaped; sometimes cloven; lopped at the ends and notched. *From Dillenius.*

Lichenoides tenue crispum, foliis exiguis surrectis. Dillenius,
t. 10. f. 34.

Prickly Lin.
Dill.

3. branched; shrub-like; branches sharp; upright; growing in a tuft. *From Dillenius.*

Lichenoides tenuissimum crispum et veluti aculeatum. Dillenius, t. 10. f. 35.

Woods, hearths, and shady places. (1.) On moss. (1.) All the year. (3.) Winter,

STAR.

STARJELLY. Upright; flat; jagged; segments cloven at the end, blunt;—*growing in a kind of tuft.* Brown. From Dillenius. Horned
8
Corniculata
Dill.

Lichenoides pellucidum fuscum corniculatum. Dillenius, t. 19. f. 30.

Heaths. Winter and Spring. Dill.

STARJELLY. Flat; strap-shaped; forked; segments broader at the ends; lopped; edged with a few imperfect teeth. Forked
9
Dichotoma
Dill.
From Dillenius.

Lichenoides gelatinosum foliis angustioribus tuniformibus. Dillenius, t. 19. t. 28.

Malham Cove Rivulet, Yorkshire, and Snowden torrents. Summer. Dill.

STARJELLY. Solid; wrinkled, tubercled; *somewhat glo- Warty*
bular; of a blackish yellow. 10
Verrucosa

Tremella fluvialis gelatinosa et uterculosa. Dillenius, 54. t. 10. f. 16.

On stones in brooks and rivers.

STARJELLY. Roundish; full of hollows, assuming a variety of forms, of a jelly-like substance? Curled?
11
Disformis?

Lichenoides maritimum gelatinosum crassum, intestinorum gyros referens. Dillenius, t. 19. f. 19.

Lichen maritimum gelatinosum, intestinorum gyros referens. Ray's Syn. 478.

1. Thick and short; of a firmish jelly-like substance and of a greenish brown colour.

In the sea, and salt marshes about Delkey, Chichester, Sussex. Dill.

Oes. *Uncertain whether this plant of Dillenius's be the Tremella disformis of Lin. But it seems to correspond pretty exactly to his description of it.*

STARJELLY. Hemispherical; scattered.—

On sea river-weeds, and oar-weeds. Sea
12
Hemphérica

STARJELLY. Nearly globular; sitting; single; smooth, Purple
13
Purpurea
—*mostly of a pale purple, or flesh-colour; but sometimes of a beautiful carmine.*

Lichenoides tuberculosum amoene purpureum. Ray's Syn. 71. Dillenius, 127. t. 18. f. C.

On the decayed bark and branches of trees.

STAR-

Lentil

STARJELLY?

Nigra¹⁴

TREMELLA?

Dill.

Globular or oblong; somewhat flattened; sitting; single; black.
—*Larger than the preceding, and of a firmer consistence.* From Dillenius.

Lichenoides tuberculosum compressum nigrum, lignis putridis adnascens. *Ray's Syn.* 71. *Dill. t.* 18. f. 7.

On the bark of decayed wood. Winter. *Dill.*

OES. Some may be inclined, with Dillenius, to refer this and the preceding species, to the CUPTHONG, or with Linnaeus to the JELLYWORT, but they are neither transparent, nor of a jelly-like consistence. Nor do they form a ground, or crust, as the Cupthong, but rise distinct from each other. Do they not rather belong the FUNGUSSES? and are they not in reality species of the CLUETOP?

Juniper?

STARJELLY. Sitting; membranaceous; ear-like; of a yellowish brown—

Juniperina?¹⁵

Fungus gelatinus dentatus, fabinæ adascens, fulvi coloris. *Ray's Syn.* 16.

Ray

On Savine.

Flat

STARJELLY. Round and flat; of a jelly-like substance—

16

Fungus rotundus planus ligno putrido adnascens. *Ray's Syn.*

Flana

17.

Ray

On rotten wood.

428 LAVER. 1206 Ulva.

FLOWERS in a semi-transparent bladder-like membrane; with no appearance of a regular leaf.

Turkey-Feather

LAVER. Flat; kidney-shaped; sitting; scored *a-cross* and *a-cross*—

Pavonia¹

Fucus maritimus gallopavonis pennas referens. *Ray's Syn.* 43.

Alga maritima gallopavonis plumas referens. *Rauh. pin.* 364.

Fucus pavonicus. *Hudson* 472. *Sp. Pl.* 1630.

On rocks and stones in the sea.

Navel

LAVER. Flat; round; sitting; target-shaped; of a leathery substance—*somewhat hollow.* Border indented; fixed only by a point in the middle, to the substance on which it grows; of a dark sooty colour, shining.

Umbilicalis²

Ulva marina umbilicata. *Ray's Syn.* 62.

Fucus umbilicus marinus dictus. *Rauh. pin.* 364.

Tremella marina umbilicata. *Dillenius* 46. t. 8. f. 3.

On rocks and stones in the sea.

LAVER.

LAVER. Tubular; simple.—*Floats mostly near the surface* Gut
of the water, though sometimes adhering to stones.

Ulva marina tubulosa, intestinorum figuram referens. Ray's Intestinalis.
 Syn. 62.

Fucus cavus. Baub. pin. 364.

Tremella marina tubulosa intestinorum figuram. Dillenius 47.

t. g. f. 7.

Mostly in ditches near the sea, but sometimes in fresh water
 ditches.

z. Branched.

Fucus herbaceus cavus fluitans ramosus, calami anserina fere Branched
crassitudine. Ray's Syn. 2d edit. 340. Ray.

Mostly in ditches near the sea, but sometimes in fresh water
 ditches.

LAVER. Tubular; branched; compressed—Irrregular, zig- Flat
 zag; *cells of different sizes, but communicating with one another;* 4
branches scattered, but little divided; sometimes nearly cylindrical. Compressa

Ulva marina tenuissima et compressa. Ray's Syn. 63.

Tremella marina tenuissima et compressa. Dill. 48. t. 9. f. 8.

On rocks and stones in the sea.

LAVER. Strap-shaped; branched; nearly upright; form- Cluster
ing a turf;—Segments mostly cloven, rather blunt. From Dill.

Tremella marina caespitosa, segmentis tenuibus. Dill. t. 10. Caespitosa
 f. 9. Dill.

Side rocks Anglefy. Dill.

LAVER. Thread-shaped: jointed; joints alternately, com- Riverweed
 pressed; *tubular.*

Conferva tubulosa. Hudson 180.

Confervoides

Conferva marina fistulosa. Dill. 34. t. 6. f. 38.

1. *Conferva marina geniculata albicans, diaphragmatis distincta.* Wirtzb. Hud.
 Ray's Syn. 60.

2. *Conferva marina nodosa, ex albo rubescens mollis, sed mi-* Reddish Hud.
nus lubrica. Ray's Syn. 61.

On the sea-shore.

LAVER. Tubular; very much branched; jointed; joints Jointed
cylindrical; branches opposite—Purple. Hudson 476.

Corallina lenta purpurea compressa. Ray's Syn. 34.

Articulata
 Hud.

On the sea-shore.

LAVER.

Horned

8

Ceranoides

Dill.

LAVER?

ULVA?

Nearly cylindrical; very much branched; branches irregular; tapering and forked at the ends.—*Of a slippery consistence.* From Dill.

Conferva marina lubrica et mucosa. Dill. t. 4. f. 24.

Bagnor and Cockbush-thore, Suffex. June. Dill.

Branched

9

Ramosa

Hud.

Grass leaved

10

Dichotoma

Hud

Curled

11

Latissima

LAVER. Leaf branched; flat; waved; purple. *Hudson* 476. On the sea-shore.

LAVER. Leaf forked; green. *Hudson* 476.

Fucus membranaceus dichotomus gramineus. *Ray's Syn.* 45.

On the sea-shore.

LAVER. Oblong: flat, waved: membranaceous; green, but sometimes purple;—*very long and very broad.*

Fucus longissimus, latissimus, tenuique folio. *Ray's Syn.* 40.

Alga longissimus, latissimus tenuique folio. *Bauh. pin.* 364.

On the sea-shore.

Oyster

12

Lactuca

LAVER. Hand-shaped; proliferous: membranaceous: segments narrower towards the base.—*Leaves crowded together; pale; segments waved; inversely egg-shaped; blunt; transparent; each growing into leaves.*

Sea

1. *Ulva marina lactucæ similis.* *Ray's Syn.* 62.

Tremella marina vulgaris, lactucæ similis. Dill. 42. t. 8. f. 1.

Fucus marinus, lactuca marina dictus. *Park.* 1293.

Muscus marinus lactucæ similis. *Bauh. pin.* 364.

Lichen Marinus. *Gerard.* 1377.

Fresh water

Hud.

2. Smaller and more tender.

Ulva palustris lactucæ marinæ similis sed multo minor et tenerior. *Ray's Syn.* 63.

Tremella palustris, vulgari marinæ similis, sed minor et tenerior. Dill. 43. t. 8. f. 2.

Green Laver. Oyster Green.

(1.) In the sea. (2) in fresh water ditches.

This is esteemed by the inhabitants of the sea-coast as a wholesome and pleasant food, being gently opening and antiscorbutic. It is frequently sent to London in earthen pots.

Leek

13

Lactucolata

LAVER. Spear-shaped; flat.

Tremella marina, porri folio. Dill. 46. t. 9. f. 5.

On rocks in the sea.

LAVER

LAVER. Leaf oblong; blistered—*Folded; margin curled; Ribbon*
indented. 14

Ulva marina fasciata. Ray's Syn. 62. Linza

Tremella marina fasciata. Dill. 46. t. 9. f. 6.

Muscus lactucæ marinæ similis. Baub. pin. 364.

On the sea-shore.

LAVER. Globular; growing in clusters—*About the size of Bladder*
bemp-seed: resembling little mushrooms. 15

Tremella palustris, vesiculis sphaericis fungiformibus. Dill. Granulata
55. t. 10. f. 17. Sp. Pl.

Lichenoides fungiforme, capitulis vel vesiculis sphaericis,
aqueo humore repletis. Ray's Syn. 70.

On the sides of ditches, and in ditches dried up. Autumn.

Obs. *The U. Granulata of the Syst. Nat. and of the Mant. Pl.*
l. p. 136. appears to be a distinct species. It is found in Sweden
in great quantities on the sides of springs and marshes, floating in
the water, of a green colour, of the size of bemp-seed, and full of
a viscid pulp.

429 OAR WEED. 1205 Fucus.

Barren Flowers?

Little Bladders; smooth, hollow; interspersed within
with soft hairs interwoven together.

Fertile Flowers?

Little bladders; smooth; full of a jelly-like pulp;
sprinkled with grains buried in the substance of the
bladders; somewhat prominent at the points. SEEDS
solitary.

Obs. See Plate 1. fig. G.

OARWEED. Stem somewhat cylindrical; compressed;
leaves oblong; very entire. Hudson 458.

On the Yorkshire coast.

Oval-leaved

¹
Ovatus

Hud.

Serrated.

²
Serratus

Common

OARWEED. Leaf flat; forked; partly toothed and partly
serrated. Flowers tubercled; at the ends of the branches.—

1. *Fucus, seu Alga latifolia major dentata.* Ray's Syn. 42.
Sea Wrack.

2. *Fucus marina humilis, latifoliæ serratæ similis.* Ray's Syn. 42. *Dwarf*
On stones and rocks in the sea. Hud.

VOL. II.

A a

OAR.

Oak-leaved
3
Vesiculosus

OARWEED. Leaf flat; forked; very entire; the bladders at the divisions of the leaf in pairs; those at the ends of the branches tubercled—

Common

1. *Fucus*, seu *Alga marina latifolia vulgarissima*. *Ray's Syn.* 40.
Fucus maritimus vel *Quercus maritima vesiculas habens*. *Bauh. pin.* 362.
Quercus marina herbacea et varietas. *Park.* 1293.
Quercus marina. *Gerard.* 1567.

Swollen

2. With the ends of the branches swollen.
Fucus maritimus seu *Quercus maritima foliorum extremis tumidis*. *Bauh. pin.* 365.
Sea Oak.
On rocks and stones in the sea.

Shrubby
4
Divaricatus

OARWEED. Leaf flat; forked; very entire. Branches straddling; the bladders at the divisions of the leaf in pairs—*Thinner than the preceding. The bladders at the divisions of the leaf in pairs, the others solitary.*
Sea shore.

Narrow leaved
5
Linearis
Hud.

- OARWEED. Leaf flat; forked; strap-shaped; sharp. Bladders egg-shaped; scattered. *Hudson* 461.
Fucus longo angusto crassoque folio. *Bauh. pin.* 364. *Ray's Syn.* 43.
Fucus marinus secundus. *Park.* 1293.
Quercus marina 2. *Gerard.* 1115.
Sea Thongs.
Sea-shore.

For an elegant engraving of it see the *Gent. Mag.* for 1756. Page 64. This plant at its first appearance so much resembles a Fungus, that some authors have mistaken it for one. Mr. Ray seems to have described it as a distinct species under the name of "*Fucus Fungis affinis*." *Syn.* p. 43. n. 15. from the center of the little Fungus-like substance 3 or 4 shoots arise, and extending by degrees into branches, constitute the perfect plant. The little Fungus still continues and forms a kind of fence or cup at the base of the stem.

Furrowed
6
Excisus

OARWEED. Leaf strap-shaped; forked; channelled on one side. Branches straddling; dotted—*Segments hollowed on one side, and swelling out on the other; yellowish green.*
Fucus pumilus dichotomus, segmentis ex una parte gibbosis, ex altera excavatis. *Ray's Syn.* 45.
Sea shore.

OAR-

OARWEED. Leaf flat; forked; very entire; dotted; Bucks-horn
spear-shaped; flowers tubercled; cloven; at the ends of the
branches.—*Hollow dots dispersed upon both surfaces.* 7
Ceranoides

1. Edge of the leaf entire.

True

2. Edge of the leaf ragged, as if fringed.

Torn. Sp. Pl.

Fucus lacerus. Sp. Plant. 1627.

Fucus membranaceus ceranoides varie dissectus. Ray's Syn. 44.

3. Stems somewhat cylindrical; ends of the branches broader,
flatter and ragged. *Small. Hud.*

*Fucus cauliculis teretibus, summitatibus membranaceis dilatatis
et laceratis.* Ray's Syn. 44.

4. When dry of a greenish cast.

Green. Hud.

*Fucus membranaceus ceranoides ramosus, per siccitatem ob-
solete virescens.* Ray's Syn. 44.

5. Whitish; ends of the branches star-like.

White. Hud.

Fucus ceranoides albidus, ramulorum apicibus stellatis. Ray's
Syn. 44.

Sea-shore.

OARWEED. Leaf flat; forked; very entire, dotted; Twisted
strap-shaped and channelled towards the base. Flowers in pairs;
tubercled.—*On fruit-stalks, at the ends of the branches, oblong
and thickish.* *Whilst growing in the Sea it is twisted spirally.* 8
Spiralis

1. *Fucus spiralis maritimus major.* Ray's Syn. 41.

Larger

2. *Fucus spiralis maritimus minor.* Ray's Syn. 42.

Smaller. Hud.

Sea-shore.

OARWEED. Leaf flat; forked; thread-shaped. *Hudson* Flat
479.

On the Lancashire Coast.

9
Filiformis
Hud.

OARWEED. Leaf compressed; forked. Little leaves
pointing two ways; very entire. Bladders in the substance
of the leaf, solitary; dilated,—and egg-shaped. *those in the
middle of the branches, broader.* Little Leaves spear-shaped,
blunt, disposed in two rows on the angles of the great one. Knotted
10
Nodosus

Fucus maritimus nodosus. Baub. pin. 363. Ray's Syn. 48.

On rocks and stones in the sea.

FLOWERS INCONSPICUOUS.

Podded

11
Siliquosus

OARWEED. Leaf compressed; branched. Little leaves pointing two ways; alternate; very entire. Flowers on fruit-stalks; oblong; sharp-pointed. Leaf thread-shaped; zigzag; compressed; marked with little teeth at the angles on each side. Flowers spindle-shaped; alternate; furnished with a bill, and larger than the little leaves, which are spear-shaped.

Fucus angustifolius vesiculis longis siliquarum æmulis. Ray's Syn. 48.

Fucus maritimus alter, tuberculis paucissimis. Baub. pin. 368.

Quercus marina quarta. Gerard. 1569.

On the sea-shore.

Jointed

12
Abrotani-
folius

OARWEED. Leaf thread-shaped; compressed; doubly winged. The ends bladder-like; dilated; terminated with flowers tubercled on one side.

On rocks in the sea, on the Sussex shore.

Fennel-leaved

13
Faniculaceus

OARWEED. Leaf thread-shaped; very much branched: Bladders egg-shaped; terminated with little leaves divided into many blunt segments bearing fruit at the ends.—*About the length of the Hairy Cupthong.* Little Branches very numerous; hair-like; ending in a bladder or bladders; the last of which terminates in several little leaves with tubercles at the ends.

Common

1. *Fucus radibus arborum fibrosis similis.* Ray's Syn. 49.

Fucus foliculaceus: fœniculi folio. Baub. pin. 365.

Bearded

Barbatus

2. With oblong bladders. Little leaves at the ends strap-shaped.

Fucus folio tenuissimo diviso siliquatus. Ray's Syn. 48.

Fucus foliculaceus foliis abrotani. Baub. pin. 367.

Fucus maritimus foliis tumidis barbatis. Baub. pin. 365.

Mucus marinus abrotanoides. Park. 1200.

Fucus barbatus. Hudson 160. Sp. Plant. 1629.

(1.) On the Yorkshire and Lancashire shores. (2.) On the shores of Sussex and Cornwall.

Warty

14
Verrucosus
Hud.

OARWEED. Leaf thread-shaped; branched. Branches undivided, with round little bladders on the sides. Hudson 470.

Fucus marinus purpurascens parvus, caule et ramulis seu foliolis teretibus. Ray's Syn. 50.

Sea-shore.

Prickly

15
Aculeatus

OARWEED. Leaf thread-shaped, compressed; very much branched; edged with awl-shaped, alternate, upright teeth.—*Resembles a Horse's tail.*

Fucus angustifolius, foliis dentatis. Ray's Syn. 48.

Fucus usioides. Hudson 469.

On the shores of Cornwall, and in the British Channel.

OAR.

OARWEED. Leaf cylindrical; branched; little branches tiled; segments pointing one way; bowed inwards. *Hudson* 16
 47. *Little branches beset with bristles pointing upwards.* *Ray.* *Incurvus*
Pinus maritima seu *Fucus teres*, *cujus ramuli setis sursum*
tendentibus sunt obiti. *Ray's Syn.* 50. *rud.*

Sea Pine.

On the Sussex shore.

Obs. Is not this the *F. Lycopodioides* *Syst. Nat.* p. 717. n. 35.

(55)

OARWEED. Leaf cylindrical, very much branched; branch- *Thorn*
 es scattered; beset alternately with soft thorns. *17*
 On the Yorkshire Coast. *Muscoides*

OARWEED. Leaf thread-shaped; cylindrical; forked; *Hairy*
 covered over with a very fine hairiness,—*I put so fine as hardly to* *18*
be distinguishable to the naked eye. It has somewhat of the the ap- *Hirsutus*
pearance of Sponge, and bears no small affinity to the Tamarisk
Oarweed. The Stems are about a foot long, of the thickness of
coarse thread; very much branched; the branches blunt, cylindrical,
and covered over with the hairiness above described, which is ex-
remely short and thick, and very much resembles the skin of a Fawn.
 In the sea.

OARWEED. Stem cylindrical; very much branched. *Tamarisk*
 Leaves awl-shaped; alternate. Bladders round; tiled; sitting in *19*
 the base of the leaves. *Hudson* 469. *Ericoides*

Thread-shaped; very much branched, rough with hair. *Sp. Pl.*
Linnaeus Sp. Plant 1631. n. 33.

Fucus foliis Ericæ, seu Tamarisci. *Ray's Syn.* 49.

Fucus tamarisco similis maritima. *Eaub. pin.* 365.

Fucus tamarisci folius. *Hudson* 469.

On the shores of Yorkshire and Cornwall.

Obs. The *F. Ericoides* is not to be found in the *Syst. Nat.*

OARWEED. Leaf thread-shaped; rather cylindrical; *White*
 somewhat forked; joints a little swollen: branches distant, *20*
 sharp. *Hudson* 470.—*White.* *Albus*

Fucus teres albus tenuissimus divisus. *Ray's Syn.* 50.

On the Sussex shore.

OARWEED. Leaf cylindrical; very much branched; lit- *Rough*
 tle branches alternate, in bundles; very short; tubercled; rough. *21*
Hudson 474. *Confervoides*
 On the Yorkshire coast. *Hud.*

Thread

²²
Filum

OARWEED. Leaf thread-shaped; somewhat brittle; opaque—*Not floating upon the water but a little below the surface.*
Fucus chordam teretens teres praelongus. Ray's Syn. 40.
Alga nigro capillaceo folio. Baub. pin. 364.
 On rocks in the sea.

Matted

²³
Plicatus
Hud.

OARWEED. Leaf hair-like; uniform; very much branched; matted; nearly semitransparent. *Hudson.* 470.—*Of a gold colour; the ends of the branches forked.*

Golden

1. *Fucus trichoides nostras aurei coloris, ramulorum apicibus furcatis.* Ray's Syn. 45.

Coral

2. Upright.
Fucus coralloides erectus. Ray's Syn. 51.
 Sea-shore.

Upright

²⁴
Scorpioides
Hud.

OARWEED. Leaf cylindrical; branched: branches alternate, very much branched; bent inwards at the points. *Hudson* 471.
Fucoides erectum fruticuli specie, summitatibus inflexis. Ray's Syn. 38. t. 2. f. 6.
 Sea-shore,—on the Suffex coast.

Round.

²⁵
Rotundus
Hud.

OARWEED. Leaf cylindrical; somewhat forked; uniform; branches blunt; covered with wart-like substance. *Hud.* 471.
Fucus kali geniculato similis, non tamen geniculatus. Ray's Syn. 43.
 On rocks in the sea.

Forked

²⁶
Fastigiatus

OARWEED. Leaf thread-shaped; forked; very much branched. Branches nearly of the same length; blunt.—*Fladders at the ends of the branches, cloven.*
Fucus fet. alga exigua dichotomus foliorum segmentis longiusculis, crassis et subrotundis. Ray's Syn. 45.
 Sea shore.

Sharp-pointed

²⁷
Furcellatus

OARWEED. Leaf thread-shaped; forked; very much branched; branches tapering to a point,—equal. *Nearly allied to the preceding, but longer, and the branches thicker.*
Fucus parvus segmentis praelongis teretibus acutis. Ray's Syn. 45.
Fucus forcellata lambricalis species. Baub. pin. 366.
Fucus lambricalis. *Hudson* 471.
 Sea-shore,—and in the sea.

OAR-

OARWEED. Leaves somewhat cylindrical; branched; of jelly
a jelly-like substance. *Hudson* 471.

Fucus spongiosus nodosus. *Gerard.* 1750. *Ray's Syn.* 49.

²⁸
Gelatinosus
Hud.

Spongia ramosa altera anglica. *Park.* 1304.

Sea-shore.

OARWEED. Leaf hand-shaped; flat—

Fucus membranaceus ceranoides. *Ray's Syn.* 46.

Handed

Dulleth. *Irijb.* Dills. *Scotch.* Dulls. Dulfe in *Northumberland.*

²⁹
Palmatus

Ray.

Sea-shore.

After being soaked in fresh water it is eaten either boiled, or
dried, and in the latter state has something of a violet flavour.

OARWEED. Leaf hand-shaped; little leaves sword-shaped; Fingered
stalk cylindrical—very short.

³⁰
Digitatus

1. *Fucus arboreus polyschides edulis.* *Paub. pin.* 364. *Ray's Syn.* *Common*
46.

Fucus phaganoïdes et polyschides. *Gerard.* 1570.

Fucus maximus polyschides. *Park.* 1202.

2. *Fucus membranaceus polyphyllus major.* *Ray's Syn.* 46.

Many-leaved

3. *Fucus scoticus latissimus edulis dulcis.* *Ray's Syn.* 46.

Broad-leaved

Fucus alatus, seu phaganoïdes. *Bauh. pin.* 362.

Hud.

1. Sea-girdle.

On rocks in the sea.

OARWEED Leaf almost simple; sword-shaped; stalk cy- Sweet
lindrical; very short—It is often four feet long and two broad; ³¹
nearly oval or oblong, of a leather-like substance, wavy at the edge, *Saccharinus*
and narrowing towards the base.

1. *Fucus longissimus, latissimus, crassusque folio.* *Ray's Syn.* 30. *Common*

2. *Fucus folio singulari longissimo, lato, in medio rugoso, qui* *Sea-belt.* *Hud.*
balneiformis dici potest. *Ray's Syn.* 39.

3. *Fucus latissimus et longissimus, oris crispis.* *Ray's Syn.* 38. *Cusled.* *Hud.*
On rocks and stones in the sea.

Washed in spring water and then hung up in a warm place,
a substance like sugar exudes from it. Some people eat it fresh
out of the sea.

OARWEED. Leaves membranaceous; oblong; inclining Dock-leaved
to egg-shaped; very entire; on foot-stalks. Stalk cylindrical; ³²
branched—Resembling the leaves of the Bleeding Dock in size as *Sanguineus*
well as form.

Fucus, seu alga, folio membranaceo purpureo, lapathi san-
guineo figura et magnitudine. *Ray's Syn.* 49.

On the shores of Yorkshire and Cornwall.

A a 4

OAR-

Fringed
33
Ciliatus
Common
Purple

OARWEED. Leaves membranaceous ; spear-shaped ; proliferous ; fringed—*of a reddish colour.*

1. *Fucus membranaceus rubens angustifolius*, marginibus ligulis armatis. *Ray's Syn.* 47.

2. Leaves broader, purple.

Fucus membranaceus purpureus latifolius pinnatus. *Ray's Syn.* 47.

Sea-shore.

Curled
34
Crispus

OARWEED. Leaves somewhat membranaceous ; forked ; segments growing broader towards the end—*which is edged with blunt teeth ; curled, torn, according to Hudson cloven, with a tinge of white or purple.*

Fucus membranaceus purpureus, var. ramosus. *Ray's Syn.* 47.

Sea-shore.

Jagged
35
Laciniatus
Hud.

OARWEED. Leaves membranaceous ; branched : branches growing broader towards the end ; hand-shaped. *Hudson* 473.
On the Yorkshire coast.

Winged
36
Alatus

OARWEED. Leaves membranaceous ; somewhat forked ; stringy ; segments alternate, running along the rib ; cloven—*purple ; strap-shaped ; semi-transparent ; the ends somewhat toothed.*

Fucus dichotomus parvus costatus et membranaceus. *Ray's Syn.* 44.

Sea-shore.

Red
37
Rubens

OARWEED. Leaves membranaceous ; oblong ; waved ; indented. Stem cylindrical, branched.

On the shores of Cornwall.

Loufswort
38
Pinnatifidus
Hud.

OARWEED. Leaves (*membranaceous*) branched ; branches with winged clefts, inclining to toothed ; border callous. *Hudson* 473.

Fucus dealensis pedicularis rubræ folio. *Ray's Syn.* 48.

On stones and rocks in the sea.

Pinnated
39
Pinnatus
Hud.

OARWEED. Leaves membranaceous ; triply winged. *Hudson* 474.

On the Yorkshire and Sussex coast.

Horny
40
Corneus
Hud.

OARWEED. Leaves gristly ; branches somewhat winged ; segments sharp ; bearing fruit. Stem somewhat cylindrical, very much branched. *Hudson* 474.

Fucus flavicans teretifolius, ramulis plennatim enascentibus. *Ray's Syn.* 50.

On the Devonshire coast.

OAR-

OARWEED. Leaves gristly; spear-shaped; doubly winged; Feathered feather-like: stem thread-shaped: compressed; branched.—⁴¹
Leaves purple. It resembles the following species, but is winged Plumosus
like Feathermoss, and small.

Fucoides purpureum eleganter plumosum. Ray's Syn. 37.

OARWEED. Leaves gristly compressed, more than doubly Fern-leaved
 compound; winged; segments blunt. *Hudson 473.*

On the Lancashire coast—not common. ⁴²
Filicin
Hud.

OARWEED. Leaf gristly; compressed; more than doubly Scarlet
 compound; winged. Segments strap-shaped—coloured; Stem ⁴³
somewhat cylindrical: compressed; gristly; very much branched: Cartilaginous
little branches alternately pointing one way. Fruit globular, on the
sides of the branches. Hudson 473.

Fucoides rubens, variegatissimum. Ray's Syn. 37.

Sea-shore.

Obs. *Hudson does not admit of Linnaeus's character but refers it*
as a Synonym of his Conferva rubra, though both agree in giving
Ray's Synonym.

OARWEED. Leaves membranaceous, strap-shaped, com- Purple
 pressed, branched; fruit globular, scattered; without foot- ⁴⁴
 stalks. *Confervoides*
Lin.

Thread-shaped cylindrical, very much branched; branches al-
 ternate; little branches crowded, bearing fruit; fruit globular.
Hudson 471.

1. *Fucus teres rubens ramosissimus. Ray's Syn. 51.* Branched

2. Not so much branched, but running out in length. Long. Hud.

Fucus teres rubens minus ramosus in longum protensus.
Ray's Syn. 51.

Fucus purpureus. Hudson 471.

On stones and rocks in the sea.

Obs. *All the species of Oarweed may be used to manure land, or*
burnt to make Kelp, which is an impure fossil alkali.

430 RIVERWEED. 1207 Conferva.

Fibres simple; uniform; like hair or thread. GEN.
 Plant. Unequal *Tubercles*, on very long, hair-
 like fibres. SYST. NATURAE.

* *Threads simple, equal, without joints.*

Common
 Rivularis
 True

RIVERWEED. Threads undivided; equal; extremely long—*Deep green.*

1. Threads extremely fine and long, floating with the stream.
 Conferva fluviatilis sericea vulgaris et fluitans. Dill. 12. t. 2.
 f. 1.

Conferva Plinii. Ray's Syn. 58.

Threads coarser, not so long, winding in different directions, from one to two feet in length, about the thickness of human hair.

Hair-like. Hud.

2. Conferva palustris sericea filamentis crassioribus et longioribus. Ray's Syn. 477.

Conferva palustris sericea, crassior et varie extensa. Dill. 13.
 t. 2. f. 2.

(1.) Rivulets, ponds, and bogs; in all seasons, but chiefly spring and autumn. (2.) Marshy meadows, spring and summer.

OBS. *Are not these distinct species?*

Spring

RIVERWEED. Threads undivided; equal; shorter than one's finger.

Fontinalis
 Small

1. Threads extremely short; sometimes not more than half an inch in length: of a brownish green.

Conferva minima Bassi facies. Dill. 14. t. 2. f. 3.

Conferva fontalis fusca omnium minima mollis. Ray's Syn. 58.
 On stones, in flow streams and near springs. Winter.

Larger. Dill?

2. Threads longer, of a slippery consistence, uniting into fleecy locks.

Conferva mucosa, confragosis rivulis innascens. Dill. t. 2. f. 4.

(1.) On stones in flow streams, and near springs. Winter.
 (2.) In rocky rivulets. Llanberris, Wales. Dill.

* * *Threads*

* * *Threads branched, equal.*

RIVERWEED Threads equal; branched at the ends. Forked
Branches mostly undivided. *Hudson* 478. Threads pretty long,
dividing into two or three short branches at the ends. *Furcata* 3
Hud.

1. *Conserva capillacea, filamentis bifidis et trifidis.* *Dill.* 16. *Cloven* *Hud.*
t. 2. f. 6.

Conserva rivularum nostras bicornis, filamentis tenuissimis.
Ray's Syn. 58.

2. Threads shorter; thicker; and more branched—green when *Branched* *Hud.*
taken out of the water, but when dry it turns to a greyish dark green.

Conserva palustris, filamentis brevioribus et crassioribus. *Dill.*
17. t. 3. f. 10.

Conserva palustris subhirsuta filamentis brevioribus et crassi-
oribus. *Ray's Syn.* 477.

Obs. This variety appears to be a different species, at least not a
variety of this. *Dillenius* speaks of it as having some affinity both to
the Common and the Mill Riverweed but shows it to be distinct from
both. The threads he says are shorter, thicker, and more branched
than in the former; longer, thicker and less branched than those of
the latter.

(1) In rivulets. (2) In ditches. Spring—Summer—Aut.

RIVERWEED. Threads equal; somewhat branched; White
shining like white silk.—Pretty much resembles in form the *Cloven* 4
Forked Riverweed but it is not quite so long. From *Dillenius.* *Candida*

Conserva capillacea, ferici candidi instar nitens. *Dill.* t. 2. f. 7. *Dill.*
Penryn, Wales. Anglesey rocks. *Dill.*

RIVERWEED. Threads equal; branched; inclosing air Cotton
bubbles. 5

Conserva palustris bombycina. *Ray's Syn.* 60. *Dill.* 18. t. 3. *Bullosa*
f. 11.

Alga bombycina. *Baub. pin.* 362. *Park.* 1261.

Ditches and stagnant waters. Spring—Summer and Autumn,
disappearing in the winter. On the sides of cisterns in all seasons.

RIVERWEED. Threads equal; more branched toward the Mill
base.—Branches crowded; soft and herbaceous when taken out of 6
the water, but when dry they acquire an almost stony hardness, which *Canalicularis*
Dillenius attributes to a sediment deposited by the water. This may
possibly be the case, but may it not be owing rather to an earth ab-
sorbed by the plant itself in the process of vegetation, as is probably the
case in the Stonewort?

Conserva rivulorum capillacea, densissime congestis ramulis.
Ray's Syn. 58. *Dill.* 21. t. 4. f. 15.

Alga in tubulis aquam fontanam ducentibus. *Baub. pin.* 364.
Clear streams, and mill pond troughs.

RIVER-

- Amphibious** RIVERWEED. Threads equal; branched; when dry
⁷
Amphibia uniting into stiff sharp points—
Conferva amphibia, fibrillosa et spongiosa. Dill. 22. t. 4. f. 17.
Conferva terrestris exilis fibrillosa. Ray's Syn. 59.
Fungus vel potius spongia viridis dohulis adnascenti similis.
Ray's Syn. 57.
 Banks of rivers; ditches; damp walls. Autumn and Winter,
 and in Summer in moist shady places.
- Fennel-leaved** RIVERWEED. Threads equal; very much branched;
⁸
Faniculacea branches and subdivisions of the branches very long, scattered.
Hudson 479.
Conferva marina foeniculacea. Dill. 16. t. 2. f. 8.
 On rocks on the sea-shore.
- Rough** RIVERWEED. Threads equal; very much branched;
⁹
Rigida little branches very short, alternate. *Hudson 479.—Distant; of a*
¹⁰
rigid consistence.
Conferva fluviatilis fibrillosa, subrigida. Dill. 21. t. 4. f. 16.
 In flow rivers.
- Fibrous** RIVERWEED. Threads equal; very much branched;
¹⁰
Fibrillosa little branches very short, numerous; crowded; very finely di-
¹¹
Dill. vided;—*Soft; of a pale green. Very much resembles the preceding*
species. In Dillenius's figure there appears little knots at the divisions
of the branches, which are probably the flowers or fruit. From
Dillenius.
Conferva fluviatilis brevis, extremis ramulis creberrime et
tenuissime divisis. Dill. t. 4. f. 18.
 On small stones in Hackney River. *Dill.*
- Matted** RIVERWEED. Threads equal; very much branched,
¹²
Littoralis pretty long; roughish. Larger threads jointed, branched;
 lesser threads very much branched, matted together. *Hudson*
484.
Conferva marina capillacea longa ramosissima, mollis. Ray's
Syn. 59. Dill. 23. t. 4. f. 19.
Conferva plicata. Hudson 484.
 On rocks and stones in the sea.

RIVERWEED. Threads equal, very much branched; Wool
branches undivided; crowded together; brown, (or whitish.)¹²
Hudson 480. Tomentosa
Hud.

1. Of a more tender substance, and of a whitish colour.
Conferva marina tomentosa, tenerior et albicans. *Ray's Syn.* *White*
59. *Dill.* 19. t. 3. f. 12.
Muscus maritimus gossipio similis. *Bauh. pin.* 663.
2. Of a firmer consistence, of the colour of rusty iron.
Conferva marina tomentosa, minus tenera et ferruginea. *Ray's* *Rust-coloured*
Syn. 59. *Dill.* 19. t. 3. f. 13.
Salt ditches, and the sea-shore.

RIVERWEED. Threads branched; soft; shorter than Sea-green
one's finger; of a beautiful green.¹³
Conferva marina capillacea brevis, viridissima mollis. *Dill.* *Æruginosa*
13. t. 4. f. 20.
On Oarweed.

RIVERWEED. Threads equal; branched; branches very Black
short; in bundles. *Hudson* 481.¹⁴
On the Yorkshire coast. Nigra
Hud.

RIVERWEED. Threads branched; equal. Little branches Sponge
undivided; tiled. *Hudson.* 480.¹⁵
Fucus teretifolius spongiosus pilosissimus. *Ray's Syn.* 45. Spongiosa
Sea-shore. *Hud.*

RIVERWEED. Threads equal; forked—
Conferva dichotoma, setis porcinis similis. *Dill.* 17. t. 3. f. 9. Bristle
Conferva Plinii setis porcinis similis. *Ray's Syn.* 58. Dichotoma¹⁶
Salt marsh ditches. All the year.

RIVERWEED. Threads proliferous; of the same length; Broom
rough with hair—¹⁷
Conferva marina pennata. *Dill.* 24. t. 4. f. 23. Scoparia
Sea-shore.

RIVERWEED. Larger threads branched; lesser threads Latticed
alternate; short; with many finger-like divisions—¹⁸
Conferva marina cancellata. *Ray's Syn.* 59. *Dill.* 24. t. 4. Cancellata
f. 22.
On shells and pebbles near the sea-shore.

*** Threads

* * * *Threads growing into one another.*

- Net¹⁹ RIVERWEED. Threads uniting so as to form a sort of network.
 Reticulata *Conferva reticulata*. *Ray's Syn.* 59. *Dill.* 20. t. 4. f. 14.
 Ditches, rivulets, and banks of rivers. Summer.

* * * * *Threads knotted.*

- Horse-tail²⁰ RIVERWEED. Threads undivided, bristle-shaped, straight.
 Fluvialis Knots angular and thicker than the thread —
Conferva fluvialis lubrica setosa, Equiseti facie. *Dill.* 39.
 t. 7. f. 47.
 On stones in rivers.

- Flat-headed²¹ RIVERWEED. Threads undivided; somewhat necklace-
 Compressa shaped. Joints broad, flatted. *From Dillenius.*
Dill. *Conferva fluvialis nodosa, fucum æmulans.* *Dill.* t. 7. f. 48.
 Near Ludlow, Shropshire; on the new bridge. *Dill.*

- Frogspawn²² RIVERWEED. Threads branched; necklace-shaped; joints
 Gelatinosa globular, of a jelly-like substance, — *set close together.*
Brown 1. Larger; brown, or mouse-colour.
Conferva fontana nodosa, spermatis ranarum instar lubrica,
major et fusca. *Ray's Syn.* 62. *Dill.* 36. t. 7. f. 42.

- Green 2. Smaller, green.
Conferva fontana nodosa, spermatis ranarum instar lubrica,
minor et viridis. *Dill.* 37. t. 7. f. 43.

- Pale green 3. Tender slimy substance; pale green.
Conferva stagnatilis, globulis virefcentibus mucosis. *Dill.*
 38. t. 7. f. 44.

4. Large; blue; pretty much branched.
Conferva alpina lubrica, filamentis nodosis cæruleis. *Dill.* 38.
 t. 7. f. 45.

5. Threads black, fine and slender; very much branched.
Conferva fontana nodosa lubrica, filamentis tenuissimis nigris.
Dill. 39. t. 7. f. 46.

In clear springs and rivulets. (2) Spring—Summer. (4) Aug.

- Pearl²³ RIVERWEED. Threads branched; necklace-shaped; joints
 Moniliformis globular, of a jelly-like substance; little branches straight, finely
Dill. tapering to a point; — *joints distinct from each other.* A very
elegant species. Colour of a pale red. *From Dillenius.*
Conferva marina nodosa, lubrica, ramosissima et elegantissima
rubens. *Ray's Syn.* 62. t. 2. f. 3. *Dill.* t. 7. f. 40.

RIVER-

RIVERWEED. Threads very much branched; branches numerous, finely divided: little branches necklace-shaped. *From Dillenias.* Shrubby
24
Fruticulosa
Dill.

* * * * * *Threads jointed.*

RIVERWEED. Threads jointed, undivided; joints alternately compressed.—*Threads winding in different directions.* 25
Conferva filamentis longis geniculatis simplicibus. Dill. 25. *Capillaris*
t. 5. f. 27.

Conferva palustris, seu filum marinum anglicum. Ray's Syn. Co.

1. Threads fine; about the thickness of a horse-hair; sometimes a little branched. *Dill. f. 25. B.* Fine. Dill.
2. Threads considerably thicker; about the thickness of a very coarse thread. *Dill. f. 25. 4.* Coarse. Dill.

(1) In fresh water ditches. (2) In salt water ditches.

RIVERWEED. Threads jointed; forked; hairlike,—*Rather short; dividing into forks about four or five times in the whole length.* 16
From Dillenias. Crinita

Conferva ramosa, filamentis geniculatis brevioribus. Dill. Dill.
t. 5. f. 26.

On small stones in Kenchurch River, Herefordshire. *Dill.*

RIVERWEED. Branches forked; flowers surrounding the joints—*Ellis Phil. Transf. vol. 57. p. 425.* 27

On the sea-coast near Brighthelmston.

Geniculata
Ellis.

RIVERWEED. Branched forked; fringed at the joints—*Ellis Phil. Transf. vol. 57. p. 425.* Fringed
28

RIVERWEED. Threads jointed, forked—*Of a jelly-like substance.* Ciliata
Coralline
29

1. Threads finer, of a reddish colour. Corallinoides
Red
Conferva marina gelatinosa, corallinae instar geniculata tenuior. Dill. 33. t. 6. f. 37.

Corallina confervoides gelatinosa rubens, ramulis et geniculis perangustis. Ray's Syn. 34.

2. Threads thicker, white; joints transparent. White

Conferva marina gelatinosa, corallinae instar geniculata, crassior. Dill. 33. t. 5. f. 36.

Corallina confervoides gelatinosa alba, geniculis crassiusculis pellucidis. Ray's Syn. 34.

On the sea-shore. (2.) Adhering to pebbles.

RIVERWEED. Threads jointed, very much branched; Pointed lesser branches very long, distant, sharp. *Hudson 484.* 30

Conferva marina geniculata ramosissima lubrica, longis sparse ramulis. Ray's Syn. 61. Dill. 35. t. 6. f. 38. Elongata.
Hud.

On the sea-shore.

RIVER.

- Hand-shaped ³¹ RIVERWEED. Threads jointed, branches in bundles.—
 Polymorpha *Pretty much divided.*
 This plant as its Latin name implies, assumes a variety of appearances. At first it is red; it then turns of a brownish colour, and at last becomes almost black. At this stage of its growth, it changes too its form. Most of the middle, or lower branches drop off, and the upper ones alone remain, which when grown to nearly an equal length, have very much the appearance of an open hand, whence its English name.
Conserva marina geniculata nigra palmata. Dillenius 32. t. 6. f. 35.
Conserva marina geniculata ramosissima lubrica, brevibus et palmatim congestis ramulis. Ray's Syn. 61.
Muscus capillaceus multifidus niger. Baub. pin. 363.
 On the sea-shore.
 In the *Philos. Transf.* vol. 57. p. 424. Mr. Ellis has demonstrated, that this species ought to be considered as bearing its Chives on one plant, and its Fruit upon another. The Capsules containing the Seeds are placed in the Forks at the termination of the branches. They are almost transparent, and when magnified the Seeds are visible within them if the plant is kept moist with water. The flowers furnished with Chives are collected into Catkins, which stand on the terminations of the branches, not in the Forks.
- Larch-leaved ³² RIVERWEED. Threads jointed; branched; branches in bundles; undivided: bundles alternate— *From Dillenius.*
 Laricifolia *Conserva fluvialis, sericea, tenuis. Dill. t. 6. f. 31.*
Dill. Munnaw River near Kenchurch, Herefordshire. *Dill.*
- Pale-red ³³ RIVERWEED. Branches nearly horizontal; feathered on the upper side. *Ellis. Phil. Transf. Vol. 57. p. 425.*
 plumula. *Ellis*
- Spreading ³⁴ RIVERWEED. Threads jointed; winding in different directions; branches, and divisions of the branches rather short. — *Joints hardly visible to the naked eye, especially in the finer branches; They may however be discovered with the assistance of a microscope.*
 Vagabunda *Conserva marina trichoides, lunæ instar expansa. Ray's Syn. 60. Dill. 30. t. 5. f. 32.*
Salt marishes.
- Short ³⁵ RIVERWEED. Threads jointed, branched; branches and divisions of the branches very short, alternate. *Hudson 484—Of a tawny colour.*
 Fulva *Hud.*
- Brown ³⁶ RIVERWEED. Threads jointed, very much branched; little branches alternate, undivided. *Hudson 486.*
 Fusca *— On the Yorkshire coast.*
Hud.

RIVER-

RIVERWEED. Larger threads jointed; forked; branches Bunched
mostly alternate; distinct; branching out into roundish tufts: 37
little branches crowded. *From Dillenius.* Racemosa
Dill.

Conferva marina trichoides, ramosissima sparsa. Ray's Syn.
60. *Dill.* 28. t. 5. f. 30.

On small stones, Shepey and Anglesey. *Dill.*

*Obs. Hudson has noted it as a subject of enquiry whether it may
not be a variety of the next species.*

RIVERWEED. Threads jointed, little branches rather short, Cluster
with many clefts—*Green.* 38

Larger threads jointed, forked; lesser threads branched; lit- Glomerata
tle branches short, rough, in bundles. *Hudson* 483.

Conferva fontalis ramosissima, glomerata congesta. Ray's Syn.
59. *Dill.* 28. t. 5. f. 31.

Springs and rivers. *Dill.* And on the sea shore. *Hudson.*

RIVERWEED. Threads jointed; very much branched; Branched
little branches with many divisions, in bundles. *Hudson* 485. 39

On the Yorkshire coast. Fucoides
Hud.

RIVERWEED. Threads jointed; branched; branches in Silk
bundles; crowded; green. *Hudson* 485. 40

Conferva trichodes virgata, sericea. Dill. 31. t. 5. f. 33. Sericea

*Conferva marina trichodes, ramulis virgatis longioribus
glabris. Ray's Syn.* 60. *Hud.*

Rivers, and on stones on the sea shore.

RIVERWEED. Threads jointed; very much branched; Rock
green— 41

Threads jointed, branched; branches alternate, subdivided, Rupestris
green. *Hudson* 485.

1. Threads branched all the way. *Sea*

Conferva marina trichodes ramosior. Dill. 28. t. 5. f. 29.

*Conferva marina trichodes, seu Muscus marinus virens te-
nuifolius. Ray's Syn.* 60.

2. Threads branched only at the ends.

Conferva fluviatilis trichodes, extremitatibus ramosis. Dill. River. *Hud.*
tab. 5. f. 28.

(1) Sea Beard. (2) River Beard.

(1) On rocks on the sea shore. (2) In rivers; on the bottoms
of boats.

RIVERWEED. Threads jointed; very much branched; Transparent
joints cylindrical; branches opposite. *Hudson* 483. 42

Sea shore. Pellucida
Hud.

Red

43

Rubra

Hud.

RIVERWEED. Threads jointed; very much branched; compressed; branches more than doubly compound; winged; coloured. *Hudson* 486.

Sea shore.

Oes. *Hudson* gives the *Fucus cartilagineus* of *Linnaeus* as a synonym of this species of which it is probably only a variety. See *Dillenius's* opinion of this matter in *Ray's Syn.* 37.

Feathered

44

Pennata

Hud.

RIVERWEED. Threads jointed; branched; branches doubly winged, brown. *Hudson* 186.

Conserva marina pennata. *Ray's Syn.* 59. Compare this with No. 17.

Conserva plumosa. *Ellis. Phil. Transf.* vol. 57. p. 424.

Sea shore.

This species produces Chives upon one plant and Seeds upon another. The Capsules are seated in the divisions of the branches near to the principal Stem. The flowers with Chives, only form spikes, which stand in the forks of the branches, partly at an equal distance betwixt the Stem and the ends of the branches. *Philos. Transf.* vol. 57. p. 424.

Winged

45

Paralitica

Hud.

Carmine

46

Floresculosa

Ellis

RIVERWEED. Threads jointed; winged—*Hudson* 486.
On Oarweed.

RIVERWEED. Flowers on fruit-stalks; empalement leafy. *Ellis. Phil. Transf.* vol 57. p. 425.

On the sea coast near Yarmouth.

Moorball

47

Ægagropila

RIVERWEED. Threads jointed; very much branched; branches extremely crowded; proceeding from the center, and forming a round ball—about the size of a walnut, very much resembling those hairy balls found in the stomachs of Cows and Oxen; green; joints of the threads brown. It is found loose in the water, and not adhering to stones or any other substance, nor does there appear to be any solid body in the center from whence the threads might proceed.

Conserva globosa. *Phil. Transf.* vol. 41. p. 498.

In lakes on mountains.

431 MUSHROOM. 1209 Agaricus.

FUNGUS horizontal, with Gills on the under surface.

Obs. See Pl. 1. fig. H.

* Hat circular ; standing on a pillar.

MUSHROOM. Gills branched ; running down the pillar. Champignon
 —Hat turban-shaped, rather flat ; border angular, as if cut into 1
 segments. Gills yellow ; thick ; not distinct from the substance of Chantarellus
 the Mushroom. Pillar yellow short and naked. It varies both
 in size and colour. It is mostly of a pale yellow, but sometimes of a
 deep, or even Saffron colour. Gerard has called them the Fungi
 lethales, but very improperly, as they are not only an innocent but
 an excellent food, and of a fine flavour.

1. Fungus angulosus et velut in laciniis sectus. *Bauh. pin.* 371.

Fungus luteus seu pallidus, Chantarelli dictus, se contorquens Common.
 esculentus. *Ray's Syn.* 2.

Fungi lethales. *Gerard.* 1385.

2. Hat with the border not circular but running into angles ; re-
 flected upwards ; in form of a drinking glass, or inverted cone ; Cup. Ray
 yellow, and when full grown, with a tinge of red. Stalk very
 short, thick.

Fungi esculenti 14 generis species 2 Clusii, aut ei similis.
Ray's Syn. 2.

(1) Meadows and pastures, and in woods under trees. (2)
 in Woods.

The French and Italians eat them.

MUSHROOM. Gills all of an equal size.—Hat not fleshy ; White
 flat ; rather concave ; as broad as one's hand ; pale tawny, or flesh-
 coloured ; scored and dotted at the edge. Gills pale, or white, and 2
 betwixt them and the edge of the hat, little teeth. Pillar white ; Integer
 nearly half as long again as the hat, about the thickness of one's lit-
 tle finger.

Fungus major pediculo longo, modice crasso, lamellis albis
 creberrimis, superne ad margines apparentibus. *Ray's Syn.* 4.

In woods.

MUSHROOM. Hat broad ; stalk very long ; variegated. Variegated
 Of a finer flavour than the Common Mushroom. From *Ray.*

Fungus pileolo lato, longissimo pediculo variegato. *Bauh.* 3
pin. 371. *Ray's Syn.* 3. Variegatus

In Chelberton Close near Cambridge, and in the Wolds of
 Lincolnshire. Ray

Teasel-headed **MUSHROOM.** Brown; root of the stalk bulbous. *Has a near affinity to the preceding, but judged to be a distinct species by those who have examined both. From Ray.*

⁴
Dipsacoides
Ray

Fungus quercinus Ray's Syn. 3.

Fungus bulbosus fuscus duplici pileolo. Eaub. pin. 371.

Navel **MUSHROOM.** White; growing together in clusters. *From Ray.*

⁵
Umbilicalis

Fungi plures simul albi, ad arborum radices, esculenti. Ray's Syn. 10.

Fungi umbilicum exprimentes, plures simul albi. Eaub. pin. 370.

At the roots of Elms near Camberwell.

Reddish **MUSHROOM.** The gills that extend but half way single. Pillar furnished with a cap; thicker towards the top; egg-shaped at the base.—*Hat large; almost flat; either white, red, or crimson; sometimes beset with angular red warts. Gills white, flat, inversely spear-shaped. Pillar hollow. Cap fixed to the middle of the pillar, limber, hanging down.*

⁶
Muscarius

Fungus minor campestris rotundus, lamellatus, inferne albus, superne purpureus. Ray's Syn. 3?

Obs. This species of Ray seems to correspond pretty exactly with the Muscarius. Purple above and white underneath. He describes it indeed as round, and seldom larger than a Pigeon's egg, but says he never saw it expanded. Pillar short and thick.

In pastures.

It will effectually destroy bugs if the juice is rubbed upon the walls and bed posts. The inhabitants in the North of Europe whose houses are greatly infested with flies at the decline of summer, infuse it in milk and let it in their windows, and the flies upon tasting the least drop of it are instantly poisoned.

Toothed **MUSHROOM.** Hat convex; gills with a sharp pointed tooth at the base.—*Hat yellowish, smooth, somewhat clammy. Gills parting from the pillar. Pillar slender; hollow; cylindrical; without a cap; scored towards the top. It grows in clusters, several rising from the same point.*

⁷
Dentatus

Fungus fasciculatus, pileo orbiculari lutescente, pediculo fusco tenerime villosa, lamellis ex flavo candicantibus. Ray's Syn. 9.

Hat small, from half an inch to an inch broad, of a brownish yellow. Flesh hardly any. Gills numerous; of a yellowish white. Pillar brown; covered with a fine woolly down; about the thickness of a straw, and about two inches high: Four or five grow together. Ray.

At the bottom of gate-posts. September.

On Hampstead heath. December. Ray.

MUSH-

MUSHROOM. Hat circular; of a yellowish brown; from two to three inches broad. Gills light brown; pillar purple—
Several growing together. From Ray. Purple stalked 8
Fasciculofus

Fungus fasciculofus pileo orbiculari lutescente, pediculo purpureo, Ray's Syn. 10.

On rotten wood.

Obs. This may perhaps prove to be only a variety of the Toothed.

MUSHROOM. Yellow; several rising from one point. Gold knotted
 From Ray.

Fungi plures ex uno pede e Prunorum radicibus enati. Ray's Nodi Aurei
Syn. 9. Ray

Fungi dumetorum ex uno pede prodeuntes. Baub. pin. 375.

In thickets at the roots of trees.

MUSHROOM. Hat flat; flesh coloured, with a milky juice; gills brownish-red. Pillar long, flesh-coloured.—
Fungus lactescens non acris. Ray's Syn. 4. Milky 10
Lactifluus

In woods.

It is agreeable to the taste and not pernicious.

MUSHROOM. Hat nearly flat, containing a milky juice. Border bent downwards, gills pale flesh-colour—*Milky juice very*
acid. acrid. 11
Piperatus

Fungus piperatus albus, lacteo succo turgens. Ray's Syn. 4.

Fungus albus acris. Baub. pin 370.

In woods.

MUSHROOM. Hat pale red or tawny. Gills numerous; whitish; pillar short; thick; flesh extremely white. Has a
 peppery taste. From Ray. Tawny 12
Fulvus

Fungus major rubescens pediculo brevi crasso, lamellis crebris albaentibus. Ray's Syn. 4. Ray

Under Oaks in August.

MUSHROOM. Hat convex; scaly; whitish. Gills brownish red.—*Hat hemispherical; with ragged scales; bent inwards at the*
ed. e. Gills concave; entire at the edge; unequal in length. Pillar Common 13
cylindrical; above the cap smooth and white; beneath ash-coloured. *Campestris*

Fungus campestris albus superne, inferne rubens. Ray's
Syn. 2.

Fungus Esculentus. Park. 1317.

Its degree of convexity and the colour of its gills depend upon its age. When it first makes its appearance it is smooth and almost globular; the edges of the hat press upon the pillar, and the Gills which are then almost white are covered with a white membrane extending from the edge of the hat to the summit of

FLOWERS INCONSPICUOUS.

the pillar. In this state it is called a Button. By degrees it expands; the membrane bursts, the edges of the hat recede from the pillar and the gills are exposed to view, of a bright flesh-colour: this however soon fades, and sinks at length into a dark brown or chocolate colour. The hat now loses its convexity and becomes almost flat, rough and scaly.

Yellowish
Ray

2. Hat yellowish rather smaller; gills flesh-colour. Ray ib.

St. George's
Georgii

3. Hat yellow, convex; gills white.—Pillar firm, solid; with whitish down.

Wood?

4. Hat broad, white above; gills very numerous, of a pale red or flesh-colour; stalk short, pretty thick.—Described as a distinct species, but supposed by Dillenius to be either the same or at least only a variety of the common Mushroom.

Fungus minor pileolo lato, superne candido, lamellis subtus creberrimis, pallide rubentibus, seu incarnati, ut vocant, coloris. Ray's Syn. 3.

In parks and lands that have been long unploughed, (1) common and poor land. (2) In pastures. (3--4.) In woods.

This species is one of the corner stones of modern luxury; either dressed in substance, or the juice boiled up with wine and spices, taking the name of Catchup.

The Seeds are contained in the substance of the Gills. Each Gill is composed of two layers, and betwixt these layers are the Seeds, which fall to the ground when ripe. Some of them in their fall catch upon the Cap, and are entangled in its woolly surface, where by the assistance of a Microscope they may easily be found.

Flesh coloured Ray.

MUSHROOM. Large; of a pale red or flesh colour. From

14

Fungus magnus rubentis seu incarnati coloris. Ray's Syn. 3.

Incarnatus

Ozs. Perhaps only a variety of the common Mushroom.

Ray

MUSHROOM. Hat and gills white. From Ray.

Esculent

Fungus esculentus pileo et lamellis albis. Ray's Syn. 2.

15

Esculentus

Grows with the common Mushroom, to which it is little inferior in taste.

Ray

MUSHROOM. Large; of a whitish green—Flesh of a fine flavour. From Ray

Green

Fungus magnus viridis. Ray's Syn. 2.

16

Viridis

Fungi umbilicum referentis variegati 3 species. Baub. pin. 370. In Hornsey-wood. Dill.

Ray

MUSH-

MUSHROOM. Hat covered with a mucus viscid substance of the colour of Verdigris. Of a moderate size. From Ray.

Fungus medius pileo mucosæ ruginei coloris obducto. Ray's ¹⁷Æruginosus
Syn. 6. Ray

In the garden belonging to the Company of Apothecaries of London, and in St. James's Park, and observed in a gravel pit in the middle of September.

MUSHROOM. Hat full of cracks or chinks; violet coloured and downy at the border; pillar bluish, with wool the colour of rusty iron—Hat hemispherical. Gills horizontally; colour of dirt. Violet ¹⁸Violaceus

Fungus pileo magno, orbicularis, sublivido, lamellis albis, pediculo brevi bulbiformi violaceo. Ray's Syn. 3.

In meadows. December.

Hat large; broad, or orbicular; somewhat of a livid colour; of a thick substance; at first convex, by degrees becoming somewhat hollow, with the border slightly reflected. Gills quite white, numerous, contracted towards the stalk. Pillar short; thick; swelling into a kind of bulb toward the base. Cap at first pale, then turning to a livid colour, and at last brown. Ray.

MUSHROOM. Hat orbicular somewhat of a livid colour; edge ragged and tinged with purple. Gills brownish—Flesh little or none. Hat about two or three inches in diameter. From Ray. Purple-edged ¹⁹Purpurascens
Ray

Amanita orbicularis sublivida, lamellis subfuscis, pilei oris leviter purpurascens. Ray's Syn. 5.

Near Camberwell. Aug.

MUSHROOMS. Hat of a dirty yellow; gills a brownish red, inclining to yellow—Hat convex but flattish, with frequently a little sudden rising in the middle; not milky; sharp at the edge; of a Cinnamon colour. Flesh of a fine flavour. Pillar long; naked; yellowish. Brown ²⁰Cinnamomeus

Fungus ovinus. Ray's Syn. 2.

Fungus planus orbiculatus aureus. Baub. pin. 371.

In woods

MUSHROOM. Hat round; of a yellowish brown, with a tinge of red; about the middle of darker red, appearing as if singed. Gills numerous, of a dirty green—Hat about two inches in diameter. Pillar not very thick, about twice as long. Several rising from the same point. From Ray. Singed ²¹Ustilatus
Ray

Fungus mediæ magnitudinis, pileolo superne e rufo flavicanti, lamellis fubris fordide virentibus. Ray's Syn. 10.

September.

Chestnut coloured

²²
Castaneus
Ray

MUSHROOM. Hat of a chestnut colour. Gills white. Pillar spotted.—*Of a pretty large size.* From Ray.

Fungus pileatus major, superne coloris castanei, lamellis candidis, caule maculato. Ray's Syn. 4.

County of Down in Ireland.

Clammy

²³
Viscidus

MUSHROOM. Hat of a purplish brown; clammy. Gills of a brown purplish colour.—*Hat at first convex; afterwards hemispherical; and when old turban-shaped, with the edge bent inwards.* Gills distinct, remote; the sides woolly, and dusted with a powder.

Amanita dura, ex fusco rubens quercina. Ray's Syn. 5.

Hat mostly flat and even, but sometimes curled and irregular; from two to four inches in diameter; of a firmer consistence than most of the other species. Flesh little or none. Gills pale reddish brown. Pillar about the thickness of one's finger, two or three inches high; of a pale reddish brown. Ray.

In woods, mostly at the root of oaks, and single, but sometimes several together. October. Ray.

Excentric

²⁴
Excentricus
Ray

MUSHROOMS. Hat fixed to the pillar on one side—not in the center. It is subject to great varieties in colour, form, and size. It has sometimes no pillar or at least a very short one, and that, though very rarely, inserted in the center of the hat. Colour whitish or as if daubed with foot. It always grows on trees, but is exactly of the same substance with the other Mushrooms. From Ray.

Fungus arboreus mollis multififormis. Ray's Syn. 5.

On trees, in St. James's Park.

Mealy

²⁵
Farinaceus
Ray

MUSHROOM. Hat flat; white, and as if sprinkled with meal. From Ray.

Fungus fimerarius in plano orbicularis, candidus. Bauh. pin. 372. Ray's Syn. 6.

On dung-hills.

Starry

²⁶
Equestris

MUSHROOM. Hat pale, with a yellow star in the center. Gills brimstone colour—not clammy; Pillar naked, smooth. Hat convex.

Fungus parvus, parvi galeri formam exprimens, rufus. Ray's Syn. 7. Bauh. pin. 373.

On hearths.

Sooty

²⁷
Fuliginosus
Ray

MUSHROOM. Hat, in form nearly the same as the former; of a sooty colour; not clammy. Gills black; extending from the hat to the cap.—*Of short duration.* From Ray.

Fungus parvus lethalis galericulatus. Ray's Syn. 7.

Fungus parvus galericulatus alter parvus. Bauh. pin. 373.

In pastures near paths and hedges. Autumn.

MUSH-

MUSHROOM. Hat convex, tapering to a point in the center; grey. Gills convex; grey; scolloped. Pillar naked—²⁸ scored, very long, cylindrical. Hat blunt at the top; rather inclining to one side; of a dirty yellowish ash-colour; Gills not numerous, only every fourth extending to the pillar. Pillar sometimes near six or eight inches long. Slender though firm; scored; hairy; yellowish. A very beautiful mushroom. **Mammosus**

Fungus fordidi tulvus, capitulo in conum fastigiato, pediculo longissimo firmo striato. Ray's Syn. 4.

In woods.

MUSHROOM. Hat convex, tapering into a sharp cone, of a dirty yellow;—very much resembling the preceding, but the Pillar shorter and slenderer, and the Gills of a blackish livid colour. From ²⁹ Sugar-loaf **Acuminatus**
Ray

Fungus fordide fulvus in acutum conum fastigiatus. Ray's Syn. 6.

Obs. This is perhaps only a variety of the preceding.

MUSHROOM. Shield-shaped, of different colours. Several rising from one point; border either scolloped or entire. From ³⁰ Cottage **Ruralis**
Ray

Fungi multi ex uno pede clypeiformes variorum colorum, per oras crenati vel non. Ray's Syn. 10.

On old ruinous cottages.

MUSHROOMS. Hat hemispherical, tapering to a point; clammy. Gills white. Pillar long; cylindrical; white—Gills ³¹ Long-stalked **Clypeatus**
not concave; dusted with a fine powdery substance on each side. Root bulbous, long, hooked at the end.

Fungus parvus, pediculo oblongo, firmo, lento, pileolo in medio fastigiato, striis exterius apparentibus? Ray's Syn. 8.
border of the Hat scored.

In wood-land-pastures. September.

Dr. Percival in the last vol. of his Essays page 267, relates the case of a man who was poisoned by eating a Mushroom, which Mr. Hudson thinks was one of this species.

MUSHROOM. Hat spherical; pale; spotted. Pillar growing in form of a bulb. Rather small. From ³² Bulbous **Bulbosus**
Ray's Syn. 3.

Amongst the brakes in Middleton park Warwickshire.

MUSHROOM. Hat Bell-shaped; whitish; ragged. Gills exceedingly white; pillar with a sort of bulb; awl-shaped; naked—³³ Conic **Extinctorius**
In pastures and on dunghills.

MUSH-

Party coloured **MUSHROOM.** Hat conical. Gills numerous ; parti colour-
 34 ed ; the outer half of a pale red, the inner half black.— *Pretty*
 Vericolor *large.* From *Ray.*

Ray

Fungus pascuorum majusculus, capitulo conico, lamellis subtus creberrimis, exteriore medietate rubentibus, interiore nigris.

Ray's Syn. 5.

In pastures.

Moufe-colour-
 ed

MUSHROOM. Hat circular at the margin ; about three inches broad ; of a moufe-colour ; clammy ; not very fleshy. Gills whitish ; pretty broad. Pillar thick ; short ; when full grown the border of the hat somewhat reflected. From *Ray.*

35
 Murinus

Ray

Fungus superficiei murini coloris, lamellis albicantibus. *Ray's Syn. 5.*

In the fields near Chelsea.

r sh

MUSHROOM. Hat of a yellowish brown. Gills whitish. — *The Hat assumes a variety of forms. At first it is conical, by degrees it becomes flat, and at length hollow ; appearing as if inverted. Pillar of a yellowish brown ; small.* From *Ray.*

36
 Palustris

Ray

Fungus parvus ex luteo fuscus, pileo per maturitatem inverfo. *Ray's Syn. 6.*

In damp moist places, amongst Moss in Chelsea garden and at Lambeth, and in wet marshy places on heaths, and on rotten Moss. Spring Autumn.

Scotch Bonnet

MUSHROOM. Hat broad ; thin ; of a leather-like substance ; compressed ; in form of a drinking-glass. From *Ray.*

37
 Mitratus

Ray

Fungus lamellatus, pileo lato, tenui, coriaceo, compresso, umbilicato. *Ray's Syn. 6.*

Frequent about Hyde-park the latter end of Oct. *Ray.*

Funnel-shaped

MUSHROOM. Hat clammy ; of a pale red ; when full grown the border reflected upwards in form of a funnel or inverted cone. Gills few.— *Of the smaller size.* From *Ray.*

38
 Infundibuliformis

Ray

Fungi pratenses minores, externe visceri rubentes. *Ray's Syn. 7.*

In pastures, especially in wet weather. Aug.—Sept.

Meadow

MUSHROOM. Hat white, or yellow ; clammy. Pillar short.— *Of the smaller size.* From *Ray.*

39
 Pratensis

Ray

Fungi pratenses minores, externe visceri, albi et lutei, pediculis brevibus. *Ray's Syn. 7.*

With the former. Aug.—Sept.

MUSH-

MUSHROOM. Hat bell-shaped; ragged; white. Gills Egg black; bending outwards. Pillar hollow.—*Hat before it unfolds egg-shaped; underneath exactly like the inside of a bell. Gills white.* ⁴⁰ *Fimecarius*
Fungus albus ovum referens. Ray's Syn. 5.
 On dung-hills.

MUSHROOM. Hat convex; ash-coloured; with white Warty gills and warts. Pillar thickish at the base. *Hudson, 494.* ⁴¹
Surrounded with a cap. Verrucosus
Fungi albi venenati viscid. Ray's Syn. 7.
 In shady places.

Obs. *This species Linnaeus inserted in some of his former pieces, but for some reason or other has omitted it in his later works. Ray's plant however is a native of England. He compares it to the Common Mushroom; from which it differs in having a longer and more slender pillar, hat broader, not so thick and fleshy, and of a poisonous disagreeable smell.*

MUSHROOM. Hat bell-shaped; scored; transparent. Bell Gills ascending. Pillar naked,—*very long, smooth. Hat clammy, of an ash or mouse-colour. Gills black, or ash-coloured.* ⁴² *Campanulatus*
Fungus perpusillus, pediculo oblongo, pileo tenui utrinque striato, seu flabelli in modum plicatili. Ray's Syn. 8.
 Gardens, meadows, and pastures. Autumn.

MUSHROOM. Hat conical; blunt at the top; scored. Spring Pillar slender; hollow; brittle.—*Small; brown; not fleshy.* ⁴³
 From Ray. *Vernalis*
Amanita parva, verna, utrinque striata, fusca, pileo obtuse coniformi. Musco palustri ramoso majori, fol. membranaceis acutis, Vern. innascens. Ray's Syn. 8.
 In Charlton Bogs, on moss.

MUSHROOM. Hat conical; of a tawny reddish colour; House gills few;—*very small.* From Ray. ⁴⁴
Fungus minimus capitulo conico, rufescens, lamellis subtus Tectorum paucis. Ray's Syn. 9. *Ray,*
 Amongst moss on the roofs of houses.

Obs. *Ray remarks that he has observed one very like it, if not the same, in marshy places.*

MUSHROOM. Hat smooth; livid colour. Gills blackish. Blackish Pillar bulbous; furnished with a cap.—*Hat expanding; fleshy. Gills black, as if footed. Pillar long; cylindrical; pale. Cappendant; membranaceous; fixed to the middle of the pillar.* ⁴⁵ *Separatus*
Fungus parvus pediculo oblongo, galericulatus; striis lividis aut nigris. Ray's Syn. 8.
 On dunghills.

MUSH.

Hemispherical

46
Hemisphaericus

Ray.

MUSHROOM. Hat hemispherical; of a livid colour. Gills of the same colour; flat,—not hollow, but extending straight from the brim of the hat to the pillar, without having any cavity underneath; numerous. Pillar slender; flexible; white; three or four inches long; swelling into a kind of knob towards the root. Several sometimes rising from the same point. From Ray.

Fungus parvus pediculo oblongo, pileolo hemisphaerico, ex albido subluteus. Ray's Syn. 7.

In pastures upon horse and cow-dung. Sept.—Oct.

Cat's-Milk

47
Lactescens

Ray

MUSHROOM. Pillar very fine; long, and slender, with a milky juice;—grows single and is very small. From Ray.

Fungus minimus, pediculo longo tenuissimo, lactescens. Ray's Syn. 9.

In pastures amongst grass.

Brittle

48
Fragilis

MUSHROOM. Hat convex; clammy; transparent; yellow. Gills of the same colour. Pillar naked—

Fungus pratensis minor, externe viscidus, capitulo praecedentis, striis subrus fulvus seu croceis. Ray's Syn. 8.

On heaths.

Turban

49
Turbinatus

Ray.

MUSHROOM. Hat turban-shaped; scored; of an ash or tawny colour above, with blackish furrowed scores underneath.—Several growing together. Pillar white; slender. From Ray. Hat not fleshy.

Fungi minores plurimi simul nascentes turbinati, exterius cinerei aut subfulvi, striis nigricantibus. Ray's Syn. 10.

In hedges and thickets.

Bunch

50
Racemosus

Ray

MUSHROOM. Hat turban-shaped; of a clear white; smooth. Gills of the same colour,—arched, extending to the skin of the hat; pillar very slender; white; several growing from the same point. From Ray.

Fungi plures juxta se nascentes, parvi turbinati, candidi ubi vis coloris. Ray's Syn. 10. t. 1. f. 2 a. a.

On rotten wood and branches of trees. Nov.

Wood

51
Umbelliferus

White

MUSHROOM. Hat plaited; membranaceous. Gills broadest at the base.—Very small; of a clear white. Stalk long, slender.

1. *Fungus parvus candidissimus lamellatus, pediculo longo gracili. Ray's Syn. 9.*

In woods amongst rotten leaves, and on rotten wood. Latter end of Autumn.

Ash-coloured

2. Of a whitish ash-colour. Pillar very long and slender; gills few. From Ray.

Fungus minimus e cinereo albicans, tenui et praelongo pediculo paucis subtus striis. Ray's Syn. 9.

On rotten wood, rising out of the very substance.

MUSH-

MUSHROOM. Hat plaited; membranaceous; white. Pil- Black stalked
lar black, —hair-like. Gills extremely thin; white. ⁵² Androsaccus

Fungus minimus Adianti aurei capitulis. An Mithridaticus
Mentzelii? Ray's Syn. 9.

On rotten sticks and leaves; and on rotten sticks at the bottom
of lakes.

MUSHROOM. Tubular, and nearly cylindrical. On the Purple veined
outside of a purple-livid colour; clammy; white within. Gills ⁵³ Hamorrhoi-
whitish — About half an inch high, Hat never observed expanded, dalis
but upon being broken, Gills of a whitish colour appeared within. Ray
From Ray.

Fungus hæmorrhoidalis, purpureus, minimus, viscidus. Ray's
Syn. 7.

On trees that have been cut down, and on rotten wood.

† Five stringed Pricklycap.

* * Without a pillar; hat but half a circle. Growing on other
plants.

MUSHROOM. Gills winding like a labyrinth. — Hat woolly Oak Agaric
above, with stripes of different colours. Pretty much resembling the ⁵⁴ Quercinus
Striped Spunk.

1. Agaricus quernus lamellatus coriaceus villosus. Ray's Syn. Common
25.

2. Smaller; white above.

Fungus parvus arborescens villosus albus, inferne lamellatus, ^{Smaller} Ray
Ray's Syn. 25.

On trunks of trees.

MUSHROOM. Leathery. Gills indented, simple. Hudson Comb Agaric
495. — Divided into teeth like a comb. Hat of the colour and substance ⁵⁵ Pectinatus
of a Cow's-hide, but rather softer. Teeth about half an inch long, ^{Ind.}
from a line to two lines in breadth, with a tinge of blue at the edge;
distinct, but set close together; very numerous.

Agaricus coriaceus longissimus, pectinatum inferne divisus.
Ray's Syn. 25. t. 1. f. 5.

On rotten wood, in cellars, &c.

MUSH-

Birch Agaric ⁵⁶ MUSHROOM. Leathery; woolly; blunt at the edge. Gills branching and growing into one another.—*Hat about four inches broad, and half an inch thick, white and woolly above, with oblong holes underneath.* Ray.

Common 1. *Agaricus villosus, lamellis sinuosis et invicem implexis.* Ray's Syn. 24.

Smooth 2. White above, with long and round holes underneath. Ray.
Ray *Agaricus quernus lamellatus, coriaceus albus.* Ray's Syn. 24.
On trunks of trees.

Obs. A comparison of Linnaeus's and Ray's characters will be sufficient to convince us, how the Agaric MUSHROOMS run insensibly into the SPUNKS.

Alder Agaric MUSHROOM. Gills cloven, powdery,—grey.
⁵⁷ *Agaricus parvus lamellatus, pectunculi forma elegans.* Ray's
Alacus Syn. 25.
In woods on trunks of trees, but mostly on the Alder.

Crab Agaric MUSHROOM. White: of a hard substance; with gills
⁵⁸ resembling the veins of the blood-stone. From Ray.
Mali Sylvestris *Fungus arboreus albus durus, lamellis instar lapidis Hæma-*
Ray titis. Ray's Syn. 25.
On the crab.

432 SPUNK. 1210 Boletus.

Fungus horizontal; porous underneath.

* Without a pillar; growing on other plants.

Cork SPUNK. Cushion-like; white; smooth. Pores angular;
¹ of different shapes—Frequently divided into a number of lobes, dis-
Suberosus posed one over another.

Agaricus intybaceus. Ray's Syn. 23.

The Fungus foraminosus arboreus lævis albißimus. Ray's Syn. Ed. 2. 340. differs only in age, becoming of a dry friable substance, smooth, exceedingly white within, and of a reddish tinge without.

On trunks of trees.

It is soft like Sponge and may be made into corks.

SPUNK

SPUNK. Cushion-like; uneven; blunt. Pores cylindrical; Spongy equal; bluish—*In shape of a horse's foot; white on the upper part.* ²
Pores set close together. Fimentarius

Sometimes near a foot broad, and two inches thick, brown and marked with semicircular lines.

Agaricus porofus igniarius Carpini. Ray's Syn. 24.

On the trunks of trees particularly on Elm.

It is used for tinder.

SPUNK. Cushion-like; smooth; pores exceedingly fine.—Touchwood Hat scaly, convex; but depressed in the center. When young of a light brown above and soft like velvet; white underneath and covered with a slimy kind of matter, but when come to maturity, it turns to a dark brown approaching to black. From six to ten inches in diameter; sometimes growing on a footstalk an inch or two long. ³ Igniarius

Agaricus pedis equini facie. Ray's Syn. 22.

Fungus in candidibus nascens, unguis equini figurea. Baub. pin. 372.

Fungus durus five igniarius. Park. 1323.

Touchwood, or spunk.

On trunks of trees, chiefly on Ash.—It is made use of in Germany and some parts of England for tinder. The Germans boil it in strong lye, dry it, and boil it again in a solution of saltpetre. The Laplanders burn it about their habitations in order to keep off a species of the Gadfly which is fatal to the young Reindeer. It has been used to stop the bleeding from arteries after amputations. *Philos. Trans.* vol. 48. p. 2 49. p. 1. for this purpose the hard outer part is cut off, and the soft inner substance is beat with a hammer to make it still softer. It is best when gathered in August or September.

SPUNK. White above, brown underneath. From Ray. Beech

Agaricus porofus igniarius Fagi, superne candicans, inferne fuscus. Ray's Syn. 24. ⁴ Faginus Ray

On trees.

This as well as the preceding species is made use of for tinder, of which it may perhaps be only a variety.

SPUNK. Cushion-like; of a fleshy substance; either simple or divided into two or three lobes.—Of a dark reddish colour without; white within; with a tinge of red. Contrary to the rest of this division it is of a fleshy substance and of no ungrateful flavour. It is eaten by the Italians, and is even said by some to be richer than the Common Mushroom. ⁵ Esculentus Ray

Agaricus porofus rubens carnosus hepatis facie. Ray's Syn. 23.

On the trunks of trees.

SPUNK.

Striped
6
Verficolor

SPUNK. With stripes of different colours; white underneath;—*Of a leather-like substance, growing over each other like tiles. Covered above with a fine short down. Stripes concentric; of different shades of red, orange, yellow, green, purple, grey, black, and white, and sometimes extremely vivid. Whitish, or yellowish brown underneath.*

Agaricus varii coloris squamosus. Ray's Syn. 24.

Fungus Ceraforum imbricatum alter alteri innatus variegatus. Baub. pin. 372.

On trunks, and stumps of trees.

Woolly
7
Villofus
Ray

SPUNK. Of a leather-like substance; woolly above, somewhat striped—*Pretty much resembles the preceding. Pores larger. From Ray.*

Agaricus villosus et porosus, substantiæ coriaceæ. Ray's Syn. 24.

Mostly on young trees.

Obs. *I have a specimen which I believe to be this of Ray, which contrary to most of the Agaric Tribe is orbicular. It did not appear to be merely an accidental variety, as there were several different stages of growth, all exactly agreeing in this respect. And what appeared equally remarkable, the porous part in all of them was uppermost.*

Semicircularis
8
Semicircular
Ray

SPUNK. Semicircular: pores numerous; roundish; about three inches broad, and half an inch thick. *From Ray.*

Fungus arboreus porosus minor, absque pediculo semicircularis. Ray's Syn. 24.

Obs. *Probably only a variety of some of the preceding.*

Prolific
9
Proliferus
Ray

SPUNK. Very large; spreading on the ground; growing together in large quantities.—*It is said sometimes to spread over a plat of ground upwards of thirty feet in diameter. From Ray.*

Agaricus multiplex porosus. Ray's Syn. 23.

In mountainous pastures.

White
10
Suaveolens?

SPUNK. Smooth above; growing on the Willow,—*Of an agreeable sweetish smell. It sometimes grows to a considerable size, weighing upwards of three pounds. Pores larger than those of the first species. Cushion-like, smooth; pores oblong. Hudson 456?*

Agaricus officinali similis. Ray's Syn. 23.

Agarico similis Fungus diversarum arborum caudicibus adherens. Baub. pin. 375.

Boletus albus. Hudson 469.

On the willow.

SPUNK?

SPUNK ?

BOLETUS ?

Citron

11

Citrinus

Ray

Woolly above; dotted underneath;—Of a fine red above, covered with a soft velvet down. Underneath of a citron colour, dotted, but not pierced with holes; about six inches broad, and two thick; of a softish substance which when cut through very much resembles Rhubarb. From Ray.

Fungus arboreus major aureus, nulla membrana superne tectus. Ray's Syn. 22.

On trees.

OBS. This and the following will probably prove to be true species of Spunk.

SPUNK ?

BOLETUS ?

Dotted

12

Punctatus

Ray

Divided into lobes; dotted: lobes of a pale red. From Ray.

Fungus arboreus lobis rubellis, diversimodo figuratis et punctatis. Ray's Syn. 23.

On the stumps of old Elms.

SPUNK ?

BOLETUS ?

Three-lobed

13

Trilobatus

Ray

Divided into three lobes; white; small. From Ray.

Fungus albus minimus trilobatus, sine pediculo, foliis quercinis adnascens. Ray's Syn. 22.

On Oak leaves in Madingly Wood near Cambridge.

OBS. Very uncertain to what genus it belongs. Perhaps it is a Turbantop.

OBS. Ray mentions a large wet spongy substance exuding from the trunks of Ash, which he calls the

Fungus spongiosus maximus aqueus, e Fraxinorum truncis exsudans. Ray's Syn. 17.

Observed at Roeliff near York, and in Surry. Probably only a species of the Spunk in an imperfect state.

He mentions too a hard fungous substance which grows on Birch and Elm called Birch-ball in the North, and Swan-ball in Surry, which the boys play with instead of balls. It is what John Bauhine calls the

Fungus solidus ex Betula & quandoque Ulmo. Ray's Syn. Ind. Plant. Dub.

Probably only a variety of the first species.

* * Standing on a pillar.

- Shell
¹⁴
 Teflaccus
 Ray
 Round
 Circular
 Perennial?
¹⁵
 Perennis?
 Yellow
¹⁶
 Luteus
 Brown
¹⁷
 Bovinus
- SPUNK. Hat roundish; pores oblong, shallow. Pillar short; fixed to the edge of the hat,—*thick and tough*. Hat *large* of a *reddish brown*. Two or three spring from the same root. From Ray.
1. Fungus maximus arboreus porosus, pediculo limbo affixo. Ray's Syn. 11. n. 4.
 Fungus angulosus pediculo exiguo. Baub. pin. 370. Ray's Syn. 11. n. 5.
2. Hat nearly orbicular, Ray. *ib*.
 At the roots of decayed trees, Elms, Willows, &c. (2) On a tree near Charlton.
- SPUNK. Perennial: hat nearly flat on both sides. Lie. —*Thin and very flexible; broad, of a black reddish colour*. Pores *extremely fine, scarce perceptible*. Pillar *very short*. Ray.
- Fungus coriaceus, pileolo latissimo atro-rubente, pediculo brevissimo. Ray's Syn. 11.
- SPUNK. Hat cushion-like; somewhat clammy. Pores rounded at the angles. Convex; bright yellow. Pillar whitish;—*about two inches high*. Hat *convex; fleshy; from half an inch to two inches in diameter; sometimes of a yellowish brown, or livid colour*. Pores *larger than those of the following species*.
 Boletus luteus. Ray's Syn. 10.
 In woods.
- SPUNK. Hat smooth; cushion-like; edged with a border. Pores compound, angular; little pores angular, shorter.—*Hat convex fleshy; dusky yellow; sometimes reddish brown*. Pores *grey, or greenish yellow*. Pillar *smooth, pale, or reddish brown*.
 Fungus porosus crassius. Ray's Syn. 11.
 In woods. August—September.
 It is eaten by the Italians. Cows eat, but it is said to make their milk nauseous.

433 PRICKLYCAP. 1211 Hydnum.

Fungus horizontal, with awl-shaped fibres on the under surface, like a Hedgehog.

- Common
 Imbricatum
- PRICKLYCAP. Hat convex, tiled, standing on a pillar,—*Pale flesh-colour*. Prickles *white*. Pillar *smooth*.
 Fungus prae candidus, prona parte cinaceus. Ray's Syn. 11.
 In woods.
 It is eaten in Italy, and is said to be of a very delicate taste.

PRICK.

PRICKLYCAP?

HYDNUM?

Hat standing on a pillar, with five fibres extending from the pillar to the edge of the hat.—*Pillar tall; slender; of a pale red.*
From Ray.

On dry Ivy leaves. *Ray's Syn.* 12. under No. 11.

Obs. This species seems to form the connecting link between the Mushroom and the Pricklycap. If future observation should confirm Ray's description, will it not form a new genus, and might it not with propriety be styled the PENTENEUROS or STRINGCAP?

Five stringed
 Quinquenerve
Ray.

434 MORELL. 1212. Phallus.

FUNGUS smooth underneath, with a sort of network on the upper surface.

MORELL. Hat egg-shaped; full of cells. Pillar naked, wrinkled.—*Esculent*
Esculentus

Fungus faviginosus. *Park.* 1317. *Ray's Syn.* 11.

Fungus esculentus 1, seu porosus. *Baub. pin.* 370.

Woods, groves, meadows, pastures, and about hedges, and dry ditchbanks. March—April.

MORELL. Hat full of cells; pillar with a cap.—*White.* Stinking
The Roots consist of very long white threads, spreading under ground, Impudicus
and matted together. On these grow little balls which Ray calls Folvae.

Phallus hollandicus. *Park.* 1322.

Fungus phalloides. *Ray's Syn.* 12.

Fungus lætidus penis imaginem referens. *Baub. pin.* 374.

Fungus virilis penis arrecti facie. *Gerard.* 1385.

Stinkhorn. *Stote.*

Woods, hedges, and dry ditchbanks. July—August.

It is so putrid in autumn, when ripe, that the Common *Flesh*
Fly devours it with great avidity.

435 TURBANTOP. 1214 Helvella.

FUNGUS smooth both above and underneath. *Gen. Plant.*
Fungus turban-shaped. Syst. Nat.

* *With a Pillar.*

TURBANTOP. Hat bent down; growing to the pillar; divided into lobes of different shapes.—*Plaited; white; membranaceous; scarce broader than the pillar. Pillar white; nearly as thick as one's finger, and two or three inches long; scored; hollow, and full of cracks.* *Mitra*

Fungus terrestris pediculo striato et cavernoso, capitello plicatili subtrus plano. *Ray's Syn.* 8.

On rotten trunks of trees. October.

C c 2

TUR.

Purple

TURBANTOP?

HELVELLA?

Purpurea
Ray

Pillar cylindrical; hat small; surface uniform; without either gills or pores. *Purple. The whole plant appears to consist only of a single pillar. From Ray.*

Fungus fontanus, purpureus elegans. *Ray's Syn. 12.*

Grows on grass floating in the water, in springs. A circumstance which seems peculiar. There is however another aquatic Fungus; See the *Black-stalked Mushroom.*

TURBANTOP?

HELVELLA?

White

Candida
Ray

Hat very small, about a quarter of an inch in diameter; of a clear white; without the least appearance of gills—*About an inch high. Said to have some affinity to the Fivestringed Pricklycap. From Ray.*

Fungus minimus candidus absque lamellis. *Ray's Syn. 12.*

In the inside of hollow Oaks, near the bottom where they are moist.

* * Without a pillar.

TURBANTOP?

HELVETTA?

Flaky

Scindalina
Ray

Convex, smooth without; substance within consisting of a number of concentric layers composed of a number of minute tubes or threads—*pointing from the center. Substance hard; covered with a thin bark of a brownish black, somewhat wrinkled and rather glossy, grey within. Not growing horizontal, but adhering close to the substance on which it grows.*

Fungus fraxineus niger, durus, orbiculatus. *Ray's Syn. 16?*

On Ash trees when rotten or in a decaying state, and observed on no other tree. *Ray. In Worcestershire. S.*

Fingered

Digitata
Ray

TURBANTOP. Long and narrow; smooth; elegantly variegated with yellow and scarlet interspersed with black at the sides,—*Ten or more grow together, as if springing from the same root, from three to six inches in length, and from 1 to 3 inches broad. Pretty thick, with an upper and a lower surface, which distinguishes it from the Clubtop to which from its form one might be inclined to refer it. Smooth, without any appearance of pores or gills. From Ray.*

Agaricus digitatus maximus, ex luteo coccineo et nigro colore eleganter variegatus. *Ray's Syn. 21.*

Fungus 4. *Park. 1321?*

Found at the root of a Yew tree near Boxhill in May.

TUR-

TURBANTOP. Woolly above; smooth underneath.—*Thin*; Agaric
of a leatherlike substance; horizontal; from half an inch to an
inch in breadth, growing one over another. Margin lobed; bent Agaricus
inwards; mostly of a brownish yellow, but sometimes with a tinge of Ray
purple or variegated above with white and yellow, or purple and
white. Under surface perfectly smooth; without the least appearance
of ribber gills or pores. From Ray.

1. Agaricus villosus, tenuis, infernalis, Ray's Syn. 21. Plain

2. Margin jagged, curled inwards.—*In this variety I have ob-* Curled
served the under surface covered with a fine soft purplish bloom like
that upon the Plum, which it is not improbable may be the flowers or
seed.

Obs. This species bears the same affinity to the Turbantop as the
 other Agarics to the Mushroom and Spunk.

(1) On trees and wood. (2) In woods at the roots of trees.

TURBANTOP. Wrinkled; indented; smooth underneath; Violet
of a violet colour,—adhering flat to the substance on which it
grows. Substance leathery but gelatinous. Smell not disagreeable, Violet
somewhat resembling that of the Morell. Ray

Agaricus mesentericus violacei coloris. Ray's Syn. 22.

On rotten wood and trunks of trees.

TURBANTOP. Wrinkled; membranaceous; expanding; Wrinkled
 margin edged all round with a soft wool underneath;—*Of a*
substance similar to that of the Jew's Ear Funneltop, but the leaf 8
is expanded and not formed into little wrinkled caps like that. From Corrugata
 Ray.

Fungus membranaceus expansus. Ray's Syn. 18.

In the garden belonging to the society of apothecaries of
 London. Ray.

TURBANTOP?

HELVELLA?

A fungous substance, compared to the loaves which the mo- Jew's loaf
 dern Jews eat at the passover. From Ray.

Fungus collyricus in putrescento Salice natus. Ray's Syn. 19. Collyrica
 On a rotten Willow. Ray.

TURBANTOP?

HELVELLA?

Saffron
Croci
Ray

Waved; membranaceous; of a jelly-like substance; pale yellow, or saffron colour.—*Form irregular, somewhat resembling the kernel of a Walnut; about a line in thickness. Stains the bands of a saffron colour.*

Agaricus membranaceus sinuosus, substantia gelatinæ. Ray's Syn. 21.

Agaricus putridus arborum ramis inherens, plurimis simul coherentibus. Baub. pin. 372.

Agaricus parvus lamellatus croceus, e Corylorum ramulis dependens. Ray's Syn. 25.

On rotten wood, and on dead sticks and branches of trees, particularly Hazel.

OBS. *It seems to have an affinity to the Jew's Ear Funneltop. Ray describes it in one place as having gills, but they are probably no more than wrinkles in the substance of the plant.*

OBS. *On the TURBANTOP.*

Ought not the limits of this genus to be extended so as to comprehend all those Fungusses which have an upper and a lower surface, and the lower surface smooth? This would comprehend that part of the Agarics which are excluded from the agarics of Linnæus and the Boletus. In a word ought not the Turbantop to be defined “FUNGUS horizontal; smooth underneath”—? The network surface of the Phallus and the open network of the Clathrus will sufficiently distinguish them.

436 FUNNELTOP. 1215 Peziza.

FUNGUS bell-shaped. Seeds round, convex, or flat.

* *Purple Starjelly. Lentil Starjelly.*

Black
Lentifera

FUNNELTOP. Bell-shaped; containing a number of small flat seed-like substances—*ash coloured. In its younger state the mouth of the cup is contracted, inclosing the seeds surrounded with a white mucilage. When it opens the seeds appear disengaged from their mucilage, each connected by a fine thread to the bottom of the cup.*

Common

1. Fungi calyciformes seminiferi. Ray's Syn. 20.

Fungus minimus ligneis tabellis areolarum hortorum adnascens. Baub. pin. 374.

Corn-bells. Worcestershire.

Scored
Ray.

2. Cup scored within; rough without; longer and narrower.

Fungus seminifer externe hirtulus, interne striatus. Ray's Syn. 20.

(1) On old wood, in plowed fields, and gardens; in barley stubble growing on the rotten stalks, whence called Corn-bells.

(2.) In Gardens.

* FUN-

FUNNELTOP. Betwixt globular and bell-shaped; containing a number of small, flat seed-like substances. Mouth in its younger state covered with a thin membrane.—*Seeds adhering to the cup by a fine thread. Smaller than the former species.* From Ray. Veiled
2
Calyptrata
Ray.

Fungus feminifer minor, fere hemisphaericus. Ray's Syn. 2.
t. 1. f. 2. b. and c.

In gardens, and on rotten wood.

FUNNELTOP. Bell-shaped; without any seed-like substances;—*at least none could be discovered in several specimens examined for that purpose. Pretty thick, of a blackish colour, scored when dry. About three parts of an inch long, supported by a short pillar.* From Ray. 3
Aspermia

Fungus minor calyciformis, vernus, crassior, nigricans. Ray's Syn. 20. Spring.

FUNNELTOP. Turban-shaped; lopped; surface dotted; Spotted Center clear white, with black rising dots. Pillar very short. The 4
Punctata

Seeds are contained in the pores, and are thrown out with a spring. Fungus minimus infundibuliformis, superne nigris punctis notatis. Ray's Syn. 12.

On horse and cow-dung, and observed no where else.

FUNNELTOP. Funnel-shaped: surface expanding; indented; dotted—*standing on a pillar; dark grey.* Cornucopia
5
Cornucopoides

Peziza tubæ fallopianæ æmula. Ray's Syn. 20.

In woods.

FUNNELTOP. Glass-shaped: angular on the out-side; Cup with branching veins—*of a dirty ash colour without; brownish within; standing on a pillar. Substance brittle.* 6
Acetabulum

Peziza subfusca major. Ray's Syn. 17.

On rotten wood, Lin. and on hot-beds, Ray.

Obs. It seems doubtful whether this species of Ray's be the true Acetabulum of Linnaeus. The Acetabulum of Linnaeus has a pillar; Ray describes his species as having none. Possibly it is only a variety of the Agaricus Chantarellus or Champignon MUSHROOM.

FUNNELTOP. Glass-shaped; of a chestnut or amber colour; Amber about an inch broad; of a thickish substance, brittle; somewhat transparent.—*Pillar about an inch, or an inch and a half high, solid.* From Ray. 7
Succinea
Ray.

1. Peziza acetabuliformis subfusca. Ray's Syn. 19.

Erown

2? Cup of a rust colour within.

Ruffy

Fungus arboreus pyxidatus coloris intus ferruginei. Ray's Syn. 20.

(1.) On the ground and on rotten wood. Spring. (2.) On trees.

Goblet
8
Amphoralis
Ray

FUNNELTOP. Glass-shaped; contracted upwards: about four inches broad. *Pillar* sometimes near half a foot high. Some of the larger ones it is said will hold more than half a pint. From *Ray*.

Fungus maximus pileolo pyxidato. Ray's Syn. 19.

Near Cambridge.

Obs. Is not this the Fungoides maximum pyxidatum of Vaillant which Linnaeus gives as a synonym of the Acetabulum, and consequently is it not the real Acetabulum?

Glass-shaped
9
Pyxidata
Ray

FUNNELTOP. Glass-shaped; of a pale livid colour. From *Ray*.

Fungi Pezizæ Plinii. Ray's Syn. 17.

Fungus noxijs 5. seu acetabulorum modo cavus, radice carents. Raub. pin. 372.

On the ground in gardens, and shady lanes.

Scarlet
10
Coccinea
Ray
Common

FUNNELTOP. Glass-shaped; border upright; smooth. Beautiful crimson or scarlet within, pale red without—*sometimes purple.*

1. Cup entire; sitting.

Fungus membranaceus seu coriaceus, acetabuli modo concavus, colore intus coccineo seu cremesino saturato. Ray's Syn. 18.

Stalked?

2. Cup entire; supported by a pillar—from half an inch to an inch in diameter, margin smooth and even. *Pillar from half an inch to an inch high.*

Peziza acetabuliformis, coccinei intus coloris. Ray's Syn. 15.

Curled?

3. Cup supported by a pillar; curled; wrinkled, and sometimes jagged;—*pretty much resembling the Common, but a good deal larger.*

Fungus membranaceus acetabuli modo cavus, coccineus crispatus. Ray's Syn. 19.

(1.) On rotten sticks in woods and hedge banks. Spring.

(2.) On rotten wood. Spring.

Sweet?

4. Round; scarlet; sweet-scented.

Fungus rotundus scarlatinus odoratus. Ray's Syn. Ind. Plan. dub.

(1.) On rotten sticks, in woods and in hedge banks. Spring.

(2.) On rotten wood. Spring. (3.) At Church Lench in Worcester-shire. *Ray*.

Hairbrimmed
11
Pilosa
Ray

FUNNELTOP. Glass-shaped; margin edged with hairs.—*Scarlet. Cup supported by a pillar; about half an inch in diameter, with black stiff hairs on the brim. From Ray.*

Peziza acetabuliformis coccinea marginibus pilosis. Ray's Syn. 19.

On rotten oaks in Kilwarlin near Hillsborough in Ireland. June.

FUN-

FUNNELTOP. Glass-shaped; jagged; segments resembling leaves; edges curled inwards—of a deep orange colour. ¹² Substance of the Cap pretty thick, but brittle. From Ray. ^{Foliacea}

Peziza miniata major. Ray's Syn. 17. ^{Ray}

At the roots of trees, lying on the ground, in Middleton Park, Warwickshire.

FUNNELTOP. Glass-shaped; border blunt; upright—Smooth ¹³ Small. yellow. Pillar very short.

Peziza lutea parva, marginibus lævibus. Ray's Syn. 18. t. Cyathoides ^{24.} f. 4.

In woods, Dec.

FUNNELTOP. Flat; border convex; hairy.—Yellow. ^{Hairy}

1. *Peziza lutea parva, marginibus pilosis.* Ray's Syn. 18. t. 24. ¹⁴ Scutellata f. 3. ^{Larger}

2. Smaller, hollowed like a saucer at the top: of an orange colour. ^{Smaller ?}

Peziza miniata minor. Ray's Syn. 18. ^{Ray}

Obs. *Dillwynius* (in Ray's Syn.) makes this variety a different species from the former, probably from not having observed any hairs on the margin, but had he examined them with a microscope, it is likely he would have found them.—There is however a small species of the Funneltop of a bright yellow, or orange, seldom larger than a pin's head; that appears on cow-dung in the spring, which if examined through the microscope, appear to be surrounded at the margin with a number of straight stiff upright yellow hairs, and corresponding exactly with the Scutellata of Linnaeus. This I take to be the latter variety, and that it differs from the former only in size.

() On rotten wood. (2) On old cow-dung. Spr. Aut.

FUNNELTOP. Flat; oval; smooth—Not hollowed in the Saffron ¹⁵ leaf; of a saffron colour; small, like Lentil seeds. From Ray.

Peziza lenticularis parva miniata. Ray's Syn. 18. ^{Crocea}

On cow-dung, and on Hampstead-heath in a sandy soil. Aut. ^{Ray.}

FUNNELTOP. Concave; wrinkled; shaped like an ear, Jews ear ¹⁶ —greenish ash colour; covered with short down; wrinkled into little ^{Auricula} cups

Peziza auriculam referens. Ray's Syn. 18.

Fungus membranaceus auriculam referens, sive sambucinus. ^{Bauh.} pin. 372.

Fungus sambucinus, seu auricula judæ. Gerard. 1383. Park.

^{1220.}

Tremella auricula. Hud. 464.

On rotten wood.

437 CLUBTOP. 1216 Clavaria.

FUNGUS perpendicular; smooth; oblong; of one uniform surface.

Simple

* Undivided.

Pistillaris

CLUBTOP. Club-shaped; undivided;—*yellowish or whitish*.

Common

1. *Fungoides clavatum minus*. Ray's Syn. 14.

Smaller ? Ray

2. Slenderer, and somewhat longer.

Fungus clavatus minimus. Ray's Syn. 14.Sharp pointed ?
Ray

3. Curved and bent inwards; terminating in a sharp point; of a citron colour.

Fungoides clavatum incurvum inacutum mucronum productum. Ray's Syn. 14.

(1.) Woods, heaths, and pastures. 2. In woods near Badmington in Gloucestershire. Oct. (3) Hamstead-heath.

Black

CLUBTOP. Club-shaped; undivided; compressed; blunt—*black*.

Ophioglossoides

Fungus ophioglossoides. Ray's Syn. 14. In woods

Pile

CLUBTOP. Nearly cylindrical, ends blunt and finely notched—*Rising from a flat smooth crust; from a quarter to half an inch high, like piles or little pillars, some single, others growing several together. Crust as well as pillars of a whitish livid colour; of a fungus substance*. From Ray.Sublicia
Ray*Fungoides humile ex albo livescens, apicibus tenuissime crenatis*. Ray's Syn. 14. t. 1. f. 4.

On rotten boards. Nov. Dec.

Toothed

CLUBTOP? CLAVARIA?

Denticulata
Ray

Small toothed Mushroom of Parkinson. From Ray.

Fungus parvus denticulatus. Park. 1321. Ray's Syn. 14.

In pastures, springing out of dry horse or cow-dung in Warwickshire.

* * Branched.

Fingered

CLUBTOP. Branched; woody; black.—

Digitata

3. *Fungus piperi aethiopico similis, vel digitatum niger*. Ray's Syn. 14.

On old planks, and half rotten wood.

Flat

CLUBTOP. Between branched, and horned; compressed—*black, covered with a kind of wool, and the ends with a white mealy dust, which is probably the Flowers or Seed*.

Hypoxylon

1. *Fungus ramosus, niger, compressus, parvus, apicibus albidis*. Ray's Syn. 15.

Common

2. Branched like the horns of a Rein-deer.

Reindeer

Fungus cornu dorcædis facie. Hudson 301.Awl-shaped
Ray

3. Ends of the branches somewhat cylindrical, and awl-shaped; sometimes cloven. From Ray.

Fungus niger subularis, apicibus albidis. Ray's Syn. 15.

On rotten wood; in cellars, ships, &c. and at the roots of trees.

CLUB.

CLUBTOP. Branched; winding in various directions,—Winding
and insinuating itself between the bark and wood of trees, sometimes
spreading to at least two feet in length, and as much in breadth;
black without; white within, near half an inch broad. Branches
flatted, thin, sometimes running into one another. From Ray.

1. *Fungus niger compressus, varie divaricatus et implexus inter* ⁷ *lignum et corticem.* Ray's Syn. 15. Infinuans
Ray
2. Branches round and brittle; not running into one another, ⁸ *Round ?*
but winding in the same manner amongst stalks and dead
leaves. From Ray.

(1) On a dead Elm in St. James's-Park. (2) From Ireland.

CLUBTOP. Branched; thread-like—about the thickness
of small pack-thread; black; of the same substance with the two
preceding, sometimes growing three or four inches long. From Ray.

1. *Fungus tenuis niger ramosus.* Ray's Syn. 15. Thread
8
Filiformis
Ray
- 2 ? Hair-like; very small. Large
Small

Fungus niger minimus ramosus capillaceus. Ray's Syn. 15.

In vaults. Obs. Both this and the preceding species may possibly
prove only varieties of the 6th species.

CLUBTOP. Branches crowded; very much divided; un-
equal.—

Fungus ramosus flavus et albidus. Ray's Syn. 16.

⁹ *Coralloides*

Fungus ramosus et imperati. Baub. pin. 371.

Fungus corallinus ad antiquarum arborum radices. Ray's
Syn. Ind. Plant. dub.

Heaths and woods. The latter in the woods near Petersfield
in Hampshire.

CLUBTOP. Very much branched; ends of the branches
mostly forked;—about three or four inches high. Stem not forked,
but subdividing into a number of branches at every division; about
the breadth of one's hand high. Of a dirty yellow. From Ray.

¹⁰ *Forked
Furcata
Ray*

Fungus ramosus minor, colore fordide flavicante. Ray's Syn.
16.

CLUBTOP. Very much branched; branches terminat-
ing in round irregular heads, uniting together, and forming
little knobs of a greenish yellow—resembling those of Cauli-
flower. It sometimes weighs two or three pounds. From Ray.

¹¹ *Cauliflower
Caulifloræ
Ray*

*Fungoides ramosum maximum, Brassicæ caulifloræ facie et
magnitudine.* Ray's Syn. 16.

In meadows.

CLUBTOP. Branches crowded; very much divided; of
an equal height blunt; yellow—

Fungoides coralliforme luteum fætidum et minus ramosum. Fastigiata
Ray's Syn. 479. t. 44. f. 5.

In pastures and woods. Aut.

CLUB.

Pointed

¹³
Muscoides

CLUBTOP. Branches divided; tapering to a point at the ends; unequal; yellow.—

Fungus parvus luteus ramosus. Ray's Syn. 16. t. 24. f. 7.
Pastures, woods and heaths.

Beech

¹⁴
Fagina
RayCLUBTOP. Branches divided; of an orange colour.—
Very small. From Ray.Fungus ramosus minimus coloris aurantii. Ray's Syn. 16.
On the bark of Beech; very common in England.

White

¹⁵
Candida
RayCLUBTOP. Branches divided, of a clear white.—
Small. From Ray.

Fungus ramosus candidissimus ceranoides, seu digitatus minimus. Ray's Syn. 16.

Fungus digitatus. Park. 1318?

In pastures, Staffordshire. Aut.

* * * *Obscure species.*

Oak-leather

¹⁶
Hæmatodes
Ray

CLUBTOP? CLAVARIA?

Broad; flat, of a soft leather-like substance, — *exactly resembling tanned leather, except that it is thinner and softer. Of no determinate form.*

Fungus coriaceus quercinus hæmatodes. Ray's Syn. 25.

Grows in the clefts and hollows of old oaks in Ireland, and in several parts of England; sometimes on ash.—It is made use of in Ireland to dress ulcers, and in Virginia to spread plaisters on instead of leather.

OBS. *This remarkable substance seems to bear some resemblance to the Winding Clubtop in its mode of growth, and to the Agarics in colour and substance. Its uniform surface however seems to refer it to the former.—There are sometimes little round hard tubercles within the substance of the plant, which may be felt by the hand, but do not appear on the surface. These may possibly be the Fruit or Seed-vessels. If the Naturalists would examine them they may possibly lead to the true arrangement of this very remarkable vegetable.*

438 PUFFBALL. 1217 Lycoperdon..

FUNGUS roundish; opening at the top; full of powdery impalpable Seeds.

* Solid; growing under ground; without a root.

Truffle

¹
TuberPUFFBALL. Globular; solid; beset with a number of pointed prominences; without a root.—*about the size of a prune; white, full of a number of veins or winding cells within, with a small quantity of brown powder in the center. Does not open.*

1. Tubera

1. *Tubera. Baub. pin. 376. Ray's Syn. 28.*

Tubera terræ. Gérard. 1385.

Tubera terræ edulia. Park. 1319.

Trubs, or Truffles.

Common

2. ? Small; about the size of a nut; purple. *Ray's Syn. 28.* Purple
3. ? Large; fringed; somewhat in form of a cup. *Ray's Syn. 28.* Ray
Cup

(1.) Beneath the surface of the ground in parks, &c. (2) In Hampton-court park. (3) From Lancashire.

This is one of the esculent Fungusses, and one of the best of them. Dogs are taught to hunt it, and when they scent it they bark a little and begin to scratch up the earth. Pigs likewise in Italy root it up, and an attendant takes it from them.

PUFFBALL. Globular; rather solid, powdery in the center. Without a root.—*Skin thick; hard; warty. The inner substance of a purplish white. Powder black. Does not open.* Branny
2
Cervinum

Tubera perniciosæ terrestria, seu cervina. Ray's Syn. 28.

Tubera cervina. Baub. pin. 376. Park. 1319, 1320.

In woods. Oct.

Obs. *Linnaeus* arranges it as growing under ground, and *vet Dillenius* in *Ray's Syn.* has not placed it amongst the *Fungi subterranei.*

* * Powdery; growing above ground; with roots.

PUFFBALL. Nearly globular; opening with a rent; powder greenish—*somewhat flattened at the top; about the size of a pigeon's egg; white; sprinkled with a kind of yellowish meal, and when ripe full of a very fine powder of a dirty yellow or greenish colour. Skin livid when ripe.* Common
3
Vulgar
Ray

Crepitus Lupi five *Fungus ovatus. Park. 1323. Ray's Syn. 26.*

Fungus rotundus orbicularis. Baub. pin. 374.

Fungus tertius seu orbicularis. Gérard. 1385.

Puff-balls, Dusty Mushrooms, Puckefists, Bullfists, Puffeballs and Fussballs.

In barren dry pastures. Aut. It is recommended by some as a styptic.

PUFFBALL. Nearly globular, opening with a rent,—*powder black. Sometimes as large, and even larger than a man's head; of a pretty firm substance; whilst growing, of a greyish white, and weighing several pounds, but when ripe it turns of a brown colour, and becomes exceedingly light; so that one larger than a man's head will not weigh an ounce.* Bullfist
4
Bovista

Fungus maximus rotundus pulverulentus, dictus Germanis Bofit. Ray's Syn. 26.

Fungi rotundis orbicularis 2 species. Baub. pin. 371.

Bunt, Puckefist, Frogcheese.

In rich pastures and on dunghills.

The

The fumes of this when burnt have a narcotic quality, and on this account it is sometimes made use of to take a hive without destroying the bees. This too as well as the former is sometimes used as a styptic.

- Orbicular
5
Orbicular
Ray
PUFFBALL. Round and flatted, quite full of dust. *From Ray.*
Fungus orbicularis per totum pulvere repletus. *Ray's Syn.* 26.
- Cup
6
Calyxiforme
Ray
PUFFBALL. Flatted; somewhat in form of a cup; large; black; dusty only towards the top. *From Ray.*
Fungus Lupi crepitus dictus in summitate solum pulverulentus. *Ray's Syn.* 26.
Fungus niger calycis figuram referens. *Paub. pin.* 375.
- Pear-headed
7
Pyriforme
Ray
PUFFBALL. Head in form of a pear, ash-coloured. *From Ray.*
Fungus pyriformis. *Ray's Syn.* 27.
In old pastures not far from Yarmouth, and on the north of the Isle of Wight.
- Short stalked
8
Compressum
Ray
PUFFBALL. Head supported by a pillar; somewhat flatted; quite full of dust; skin roughish, thick and tough; pillar not more than half an inch long. *From Ray.*
Fungus pulverulentus compressus pediculatus, cortice crassiore. *Ray's Syn.* 27.
- Spongy
9
Spongiosum
Ray
PUFFBALL. Head of a spongy substance within; covered with a membranaceous skin: supported by a pillar. Pillar short, thick, extending to the edge of the head. *From Ray.*
Fungus pulverulentus cute membranacea, substantia intus spongiosa, pediculo brevi crassiore in oras fere ducto. *Ray's Syn.* 27.
Observed near Packington, and Alrewas Hays in Staffordshire, near the deep spring. *Ray.*
- Thick-stalked
10
Stipitatum
Ray
PUFFBALL. Head supported by a pillar; pillar pretty long; distended. *From Ray.* Pillar thickest in the middle; about six inches long.
Fungus pulverulentus, Crepitus Lupi dictus major, pediculo longiore ventricoso. *Ray's Syn.* 27.
In the north of Ireland, in orchards. *Ray.*

PUFF-

PUFFBALL. Head supported by a pillar. Pillar pretty Rough long; rough — *While in its growing state, it will stick to cloaths like the flowering heads of Burdock.* From Ray. ¹¹ Scabrum

Fungus pulverulentus, Crepitus Lupi dictus, pediculo longiori scabro. *Ray's Syn.* 27. ^{Ray}

Near Waring's Town in the county of Down in Ireland, under pine trees. *Ray.*

PUFFBALL. Pillar long. Head globular; smooth: mouth Long-stalked cylindrical; very entire.—*small.* ¹²

Fungus pulverulentus minimus, pediculo longo infidens. *Ray's Syn.* 27. ¹² Pedunculatum

In pastures. *March.*

PUFFBALL. Cap with many clefts; expanding. Head Star smooth; mouth tapering, plaited.—*Clefts of the cap expanded flat on the ground in form of a star.* Head in the middle, supported by a short pillar; mouth opening when ripe, dividing into very fine fragments ¹³ Stellatum

Fungus pulverulentus, Crepitus Lupi dictus, coronatus et infirme stellatus. *Ray's Syn.* 27. t. 1. f. 1.

In meadows, and pastures.

PUFFBALL. Cap with many clefts; expanding. Head Cullander orbicular; pierced with a number of holes like a cullander, or strainer,—*which give a passage to the dust.* Clefts of the cap of a thicker substance than the former, expanding on the ground in form of a star. From Ray. ¹⁴ Coliforme

Fungus pulverulentus coli instar perforatus, cum volva stellata. *Ray's Syn.* 28.

Found in a lane leading from Crayford to Bexley-Common in Kent, and near Hampton-Court. *Ray.* Sept.

PUFFBALL. Cap with four clefts; upright; arched. Turret Head smooth: mouth blunt; fringed. *Hudson,* 502. ¹⁵

Gaster volvæ radiis et operculo elevatis. *Phil. Trans.* No. 474. Fornicatum ¹⁵ *Hud.*

In meadows and pastures.

439 MOULD. 1218 Mucor.

FUNGUS. A roundish bladder, containing a number of Seeds fixed to cross-shaped Receptacles.

* *Permanent.*

MOULD. Pillar thread-shaped; black. Head globular, Round-headed ash-coloured.—*About a quarter of an inch high.* ¹

Fungus pileatus minimus, pediculo tenui capillaceo. *Ray's Syn.* 12. ¹ Sphaerocephalus

On rotten wood, and on dead sticks in hedges.

MOULD.

- Dew-drop²
Roridulus
Ray
MOULD. Permanent? pillar thread-shaped: Head like a dew-drop, marked with a black dot at the point. *From Ray.*
Fungus (ex stercore equino) capillaceus, capsulo torido, nigropunctulo in summitate notato. *Ray's Syn.* 13.
On horse-dung about London.
- Grey-headed³
Lichenoides
MOULD. Pillar awl-shaped; black. Head lentil-shaped, ash-coloured,—*about as large as a poppy-seed.*
Coralloides fungiforme arboreum nigrum vix crustosum. *Dill.* 78. t. 14. f. 3.
On rotten wood, on the bark of old oaks. *Aut.—Wint.*
- Black⁴
Embolus
MOULD. Like a black bristle, beset with soft brown hairs.
—On rotten wood.
- * * *Of short duration.*
- Cotton⁵
Mucedo
MOULD. Capsule globular, supported by a pillar.
Fungus bombycinus murini coloris, e fimo felino, tenuissimis capillis. *Ray's Syn.* 13.
On various putrid substances; stale bread, plants, &c.
- Yellowish⁶
Leprosus
MOULD. Like bristles; seeds at the roots—*At first white, afterwards yellow.* Seeds *egg-shaped.*
In vaults and caverns.
- Greenish⁷
Glaucus
MOULD. Heads nearly globular, supported by a pillar; incorporated.—
On apples, melons and other decaying substances.
- Fingered⁸
Crustaceus
MOULD. On pillars in fingered spikes;—*White.* Seeds *round.*
On several sorts of food when in a decaying state.
- Branching?⁹
Cæspitosus?
MOULD. Pillar branched, with spikes growing by threes. *Lin.*
Of a snowy white, very much branched, soft. *Ray.*
Fungus fimosus, niveus, ramosissimus, mollis. *Ray's Syn.* 13.
In cellars on cat's-dung. *Aut. Ray.*

A P P E N D I X.

O M I S S I O N S.

SNOWDROP. 401 *Galanthus*.

EMFAL. *Sheath* oblong, blunt, compressed, shrivelling ; opening at the flat side.

BLOSS. *Petals* three, oblong, blunt, concave, loose, equal ; standing open.

Honeycup cylindrical ; half as long as the petals ; composed of three leaves resembling petals, parallel, blunt, broken at the margin.

CHIVES, *Threads* six ; hair-like, very short. *Tips* oblong, approaching, tapering to a bristle-shaped point.

POINT. *Seedbud* globular ; beneath. *Shaft* thread-shaped ; longer than the chives. *Summits* simple.

S. VESS. *Capsule* nearly globular, with three blunt corners, three cells and three valves.

SEEDS. Many ; globular.

SNOWDROP. As there is only one species known, Lin- Garden
naeus gives no description of it—*Roots bulbous*. Nivalis

Leucojum bulbosum trifolium minus. *Bauh. pin.* 56.

Fair Maids of February.

Near Cirencester in Gloucestershire, and plentifully at the foot of Malvern Hills Worcestershire. P. February—April. It is common in gardens and becomes double by cultivation.

PIPEWORT. 100 *Eriocaulon*.

EMFAL. Common, formed by several circular, concave; membranaceous scales; fringed on the upper part.

B. *Barren Florets* in the center; numerous.

Outer; an egg-shaped scale, fringed at the top, and tapering into a claw at the base; placed on the outer side of each floret.

Proper Cup of two concave, wedge-shaped; fringed leaves.

BLOSS. *Individuals* of one funnel-shaped petal; divided into two lips at the mouth, and fringed.

CHIVES. *Threads* four; thread-shaped; as long or longer than the blossom. *Tips* oblong.

F. *Fertile florets* in a double row round the circumference.

EMFAL. *Outer*; an egg-shaped scale, fringed at the top and tapering into a claw at the base; placed on the outer side of each floret.

Proper Cup of two egg-shaped concave leaves; fringed at the top and tapering into a claw at the base.

BLOSS. *Individuals* of two oblong, concave petals; fringed at the top and on the back; gradually tapering at the base into slender claws.

POINT. *Seedbud* globular, but compressed. *Shaft* short. *Summits* two; thread-shaped.

S. VESS. *Capsule* globular, but compressed; *Cells* two.

SEEDS. Smooth; dimpled at the end; one in each cell.

Wreathed
Septangulare

PIPEWORT. Stalks upright; twisted; composed of seven tubes. Leaves nearly upright—*Petals* white; with a black spot in the middle. *Tips* black.

In a small lake in the Island of Skye. P. September.

This plant was found by Mr. Robertson in the year 1766; and Doctor Hope, Botanical Professor in the University of *Edinburgh*, hath given us a description and an engraving of it in the *Philos. Trans.* vol. 59. p. 243. The Doctor inclines to think it the *Eriocaulon decangulare* of Linnæus; but it neither agrees with that in the generic or specific characters; and as Linnæus never saw a recent specimen of the plant, I should rather trust to the well known accuracy of Doctor Hope, who had an opportunity of examining it in its recent state. If it is an *Eriocaulon* it can never be the *Decangulare*; for the stalks of that are beset with black shining wool, and the leaves which are few in number spread upon the ground; nor can it be any other of the species enumerated by Linnæus, for not to mention that

they

they are all natives of India, they differ from this in the number of angles or tubes in the stalk.

The root is slightly acrimonious when chewed.

At the end of the specific character of the Royal Moonwort (p. 618.) add—*The first leaves consist only of three or five roundish little leaves, resembling some species of the HEMIONITIS, in which state of growth it was figured and described in the octavo edition of Ray's Synopsis as a distinct species, under the name of Hemionitis pumila tritolia vel quinquifolia maritima. Ray's Syn. Ed. 1. p. 26. t. 1. f. 2.*

Add the following Synonym from Ray, to the Starjelly FEA-
THERMOSS (p. 691.)

Conserva gelatinosa tenerrima et viridissima, muscum quendam filicifolium repræsentans. Ray's Syn. 60.

After the Crab's-eye CUPTHONG (p. 708.) add the following species.

CUPTHONG?
LICHEN?

Of a black fungous substance, with saucers. From Ray. Fungous
Fungoides quercinum peltatum nigrum. Ray's Syn. 16. Ray

On the trunks and branches of Oaks that have been cut down. Fungous

T H E

G L O S S A R Y.

ABORTIVE. See **BARREN.**
ABRUPT. When a winged leaf ends without a tendril or a little leaf.

ACORN. The seed of the *Oak*.

AIRBAGS. Vessels distended with air; being a sort of seed-vessel; as in some species of the *Oarweed*, and the *Bladder Sena*.

ALTERNATE. As the leaves of *Borrage*. Or *Chequered Daffodil*. *Pl. 9. f. 3. (d. d. d. d. d.) Pl. 8. f. 54.*

ANNUAL. Living only one year; as the *Larkspur*.

ANGULAR. *Stem*, &c. having edges or corners: opposed to cylindrical. A stem or stalk may have 1, 2, 3, 4, or more angles or corners. The *White Archangel* hath 4.

——— *Capsule, Flower de Luce, or Flag.*

APPLE. A species of seed-vessel in which the seeds are contained in a capsule, and this again is enclosed in a fleshy substance; as the *Common Apple* or *Pear*. *Pl. 5. fig. 20.*

APPROACHING-*Leaves*: bent inwards towards the stem. *Pl. 9. f. 5. (a. a.)*

——— *Petals* converging to the center of the flower, as in the *Pansy*. *Globe Flower.*

——— *Threads*; as in *Borrage*.

——— *Tips*; leaning towards each other; as in the *White Archangel* and *ivy-leaved Gill*.

ARROW-SHAPED-*Leaves*: shaped like the head of an Arrow, as the leaves of *Sorrel*; the *Small* or *Great Bindweed*. *Pl. 7. f. 13.*

——— *Tips*; as in the *Crocus*. *Elder.*

——— *Props. Pea.*

ASCENDING. Growing first horizontally and then bowed upwards. It is applicable either to *Leaves*, to *Stalks*, to *Stems*, as in spiked *Speedwell*, or to *Chives* as in all the *Speedwells*. See the *Chive* next below (a) in *Pl. 1. f. 8.*

AWL-SHAPED. Slender, and becoming finer towards the end, like an awl. *Pl. 7. f. 8. Pl. 5. f. 15. (a) Leaves* of *Rock Stone-crop*.

——— *Threads* of *Crocus*. *Borrage. Daffodil. Hawthorn.*

——— *Seeds* of *Shepherds Needle*.

AWN. The slender sharp substance growing to the valves of corn or grass, and frequently called a beard. It is remarkable enough in *Oats* and *Barley*. It is sometimes used to signify a sharp point terminating a leaf, &c. *Pl. 2. f. 21. (b. b.) f. 23. (b. b.)*

D d 3

BARK.

BARK. The universal covering of the stems, roots and branches of vegetables. It is generally spoken of as *inner* and *outer*. Blossoms are an expansion of the *inner*, and emplacements are a continuation of the *outer* bark.

BARREN *Flowers*; those that produce no perfect seeds. The barren flowers are generally those that have chives, but no pointals. Flowers that have only pointals are sometimes barren, owing to the absence of other flowers that have chives. In the Ruddled flowers (Class V. Order II.) it is not uncommon to have several of the flowers barren, though they are furnished both with chives and pointals; perhaps owing to some imperfection in the pointals; but future observation must determine this matter.

BASE. That part of a leaf, &c. nearest to the branch or stem.

- - - of the leaves or branches. Flowers or fruit-stalks are often said to grow at the *base* of the leaves, or the branches; that is when they are placed at the bottom of a leaf or branch, and on the inner side, where it joins to the stem. Pl. 9. f. 3. (*m.*) the fruit-stalks of the *Common Pimpernel*; the *Great Periwinkle* and the *Flowers* of the *Common Calamint* are examples.

BEADED. Consisting of many little knobs connected by small strings. As the roots of the *White Saxifrage*.

BEARDED. Beset with straight parallel hairs.

BELL-SHAPED. The idea this term is intended to convey cannot well be mistaken; examples of it occur in the *Cup* of the *Cherry*; in the *Blossoms* of the *Convulsulus* or *Lilly of the Valley*; and in the

Honey-cup of the *Wild Daffodil*. Pl. 3. f. 1. (*a.*) Pl. 4. f. 2. 3. 4. 5.

BENEATH. A *Blossom* is said to be *beneath* when it includes the seed-bud and is attached to the part immediately below it, as the blossom of *Sage*; *Borage*; *Convulsulus*. *Polyanthus*.

- - - A *SEEDBUD* is said to be *beneath* when it is placed below the attachment of the blossom and therefore not included within it; as in the *Honey-suckle*; *Currant*; *Haw-thorn*.

BERRY. A pulpy seed-vessel without valves; in which the seeds are naked, as in the *Gooseberry* or *Elderberry*. Pl. 5. f. 19.

BIENNIAL plants or roots; are those which continue alive two years.

BIRDSFOOT. Bearing some resemblance to the feet of land-fowl; as the leaves of the *Passion Flower*, or the seed-vessel of the *Birds-foot Trefoil*. Pl. 7. f. 49.

BITTEN. Not tapering to a point, or ending in any even regular form, but appearing as if bitten off; as in the root of *Devil's-bit*; and the petals of common and *Marshmallows*. Pl. 7. f. 18.

BILL. A long awl-shaped substance resembling the bill of a Wood-cock; as in *Shepherd's-Neddie*; or *Crane's-bill*. Pl. 5. f. 17.

BLADDER-SHAPED. Distended like a blown bladder; as is the cup of the *Bladder Campion*, and the blossom of the *Figs-wort*.

BLISTERED. When the surface of a leaf rises high above the veins, so as to appear like blisters.

BLOSSOM. One of the parts of a flower. It may consist of one or more *Petals*; and is formed by an expansion of the inner bark of the plant. Pl. 4.

BLUNT.

BLUNT. Opposed to *sharp*; as the leaves of the *Spiked Speedwell*; the cup of the *Convolvulus* and the Capsule of the *Willow Rat-tle*.

BOATSHAPED. Like a little keel-bottomed boat; as are the valves of the seed-vessels of the *Wood* and the *Mithridate*. Pl. 5. f. 13.

BORDER. The upper spreading part of a blossom of one Petal; as in the *Primrose* and *Auricula*. It is sometimes used to signify the thin membranaceous part of a seed or seedvessel. Pl. 4. f. 1. (b. b.)

BRISTLES. Strong stiff cylindrical hairs.

BRISTLE-SHAPED. Slender, and nearly cylindrical; as the straw of the *leaf Bullrush*; the leaves and props of the *Asparagus*.

BROAD-TOPPED-SPIKE. A spike wherein each of the flowers stand elevated upon its proper fruit-stalk so that they all rise to nearly the same height.

Exemplified in the *Pear* and the *Common Bethlem Star*. Pl. 6. f. 7.

BUD. A protuberance upon the stem or branches, generally scaly and gummy or resinous. It contains the rudiments of the leaves, or flowers, or both, that are to be expanded the following year.

BULB. May be considered as a *Bud* placed upon the root. It contains the rudiments or embryo of a future plant. Bulbs sometimes are found upon the stem, as in some species of *Garlic*.

BULBOUS ROOTS are either.

SOLID as in the *Tulip*; Pl. 11. f. 2.

SCALY as in the *Lily*; Pl. 11. f. 4. or

COATED as in the *Onion*. Pl. 11. f. 2.

BUNCH. A fruit-stalk furnished with short lateral branches. The *Grape*, the *Currant* and the *Barberry* are instances. Pl. 6. f. 8.

BUNDLE. When several flowers stand on their respective fruit-stalks which grow nearly from the same point and rise to the same height; as in the *Sweet William*.

BUNDLED. *Leaves*; when they arise nearly from the same point and are crowded together; as in the *Larch*. Pl. 9. f. 3. (f.)

- - - *Roots*; a sort of tuberous roots in which the knobs are connected without the intervention of threads, as in the *Paeony*.

BUSH. A collection of *Floral Leaves* terminating the flowering stem: as in *Sage* and *Crown Imperial*; remarkable in the *Pine Apple*.

BUTTERFLY-SHAPED. From an imaginary resemblance that some blossoms bear to that insect. The *Pea* and the *Broom* furnish examples. See the introduction to the 17th class; and also pl. 4. f. 13. 14. 15. 16. 17.

CAP. The membranaceous empalement of Fungus; surrounding the pillar. Pl. 1. fig. H. a.

CAPSULE. A dry hollow seed-vessel, that opens naturally in some determinate manner; as at the *Side* by a small hole in *Orchis* and *Campanula*; *horizontally* in *Pimpernel*; *longways* in *Convolvulus*; at the bottom in *Arrozegrass*; or at the top as in most plants. See pl. 5.

CATKIN; is a composition of flowers and chaff on a long receptacle, resembling a Cat's tail. The *Willow* the *Hazel* and the *Reed* are instances. Pl. 6. f. 12.

CELL. A vacuity in a capsule for lodging the seed. Capsules have either one cell as in *Primrose*; two as in *Thornapple*; three as in *Lilly*, four as in *Spindletree*; five as in *Rue*; six as in *Ajarabacca*, &c.

It also signifies the vacuity in the tips that contains the dust.

CENTRAL Florets; those that occupy the middle part of compound flower; as the yellow ones in the middle of a common *Daisy*; pl. 4. f. 24. (b.) and it likewise is used to signify the flowers in the middle part of a rundle.

—— *Leaf-stalk* is fixed not to the base but to the middle part of a leaf, as in the garden *Nasturtium* and *Marsh Pennywort*. Pl. 9. f. 4. (a.)

CHAFF. A thin membranaceous substance growing from a common receptacle to separate the florets from each other, as in *Teasel*; *Scabious*; *Willow*; *Furdock*.

CHAFFY Leaves the leaves of the *Fir*, the *Few*, the *Pine*, and the *Cedar* are so called. Pl. 9. f. 3. (c.)

CHANNELLED Leaves having a deep furrow or channel extending from the base to the end.

CHIVE. Open the blossom of a Tulip or Lily and you will see six long threads placed round the central pillar, with a tip on the top of each thread. One of these threads together with its tip is called a chive. Pl. 3. f. 2. (b. b. b. b. f. 3. (b. i.) f. 6.

CIRCULAR. Nearly in the form of a circle, as are the leaves of the *Alder*, or the petals of the *Strawberry* and *Hawthorn*. Pl. 7. f. 2.

CIRCUMFERENCE. The part of a circle most distant from the center. Thus in a shilling or half crown the inscription is round

the circumference. It is used in botany to express the florets that are furthest from the center of a compound flower; as the white ones that surround the yellow ones in the *Common Daisy*, or the florets in the outer part of a rundle. Pl. 4. f. 24. (a. a. a. a.)

CLAMMY. Adhesive like bird-lime; as are the leaves of the *Alder*; or the stalks of *Fraxinella*; and *Gum Cistus*.

CLASS. See the introduction.

CLAW. Blossoms that are composed of several petals have frequently those petals so formed as to admit of two distinct names; the claw and the limb. The claw is the lower part, or that next the base: thus if you take a *Pink*, a *Campion*, or a *Wallflower* and draw out one of the petals, the lower and the slender part by which it was connected and which was included within the cup, is the part which is called the *Claw*. Pl. 4. f. 11. (a. a.)

CLIMBING. A term applied to plants that take the advantage of twining round some other body to support and raise themselves; as the *Jay* and *Honey-suckle*.

CLOATHING. Every species of hairiness on the surface of plants. See **DOWN**; **HAIR**; **WOOL**; **BRISTLES**.

CLOSE. When a branching fruit-stalk bears its flowers closely compacted together but without regularity.

CLOVEN. Divided half way down, as are the summits of *Ground Jay* and *Jacob's Ladder*; the petals of *Campion*, and the leaves of *wormwood*.

—— *Tips* see pl. 1. f. 3. (a. a. a.)

CLUESHAPED. Thin at the base and thicker upwards, as is the fruit

fruitstalk of the *Cuckowpint*, and of the *African Marigold*.

CLUSTER. A collection of flowers somewhat in an egg-shaped form, as those of the *Lilac* and *Butterbur*.

COLOURED. When a leaf or cup is any other colour than green; as the floral leaves of *Golden Saxifrage*.

COMMON Empalement; including several flowers: see the introduction to the 15th class. We have a well known instance in the *Dandelion* and in all the *Thistles*. Pl. 4. f. 20.

———— **Receptacle.** A seat for several flowers or florets included within one common empalement; as is the case with most of the plants in the nineteenth class. The *Dandelion* is an example. Pl. 4. f. 25. (a.)

COMPACT. Growing close and as it were pressed together.

COMPOUND Flowers; consist of many florets upon one receptacle or seat, and included within one common empalement; as most of those in the 19th class; a *Thistle* is a familiar example. Pl. 4. f. 19. 24. 25. Sometimes; but with less propriety, the flowers that grow in rundles are called compound, as those in the second order of the 5th class: of which the *Carrot* is a well known instance.

———— **Rundle;** when each rundle, is divided into other little rundles or rundlets. Pl. 6. f. 9.

———— **Leaf;** when each leaf-stalk supports more than one leaf; or when one leaf is inserted into another, as in *Wood Horsetail*. Pl. 7. f. 47. 49. Pl. 8. f. 52. 53. 54. 55. 56. Pl. 9. f. 3. (a.) See also *Doubly compound;* *Triply compound*.

———— **Berry;** when one

large berry is composed of several small ones as for instance the *Rasp-berry*.

COMPRESSED. A term applied to a cylindrical substance more or less flattened. Thus suppose a straw to be the cylindrical substance; if this is pressed betwixt the thumb and finger so as to flatten it, we should then say it was compressed. The cup of the *Gilliflower* or the *Wallflower* is compressed, and so is the blossom of the *Rattle* and the pod of the *Lady-smock*.

———— **Leaf;** one that is thicker than it is broad.

CONCAVE. Hollowed out like a bowl; as are the petals of the *Cherry* or the *Hawthorn*; and the leaves of *Broad leaved Plantain*.

CONE. A species of seed-vessel exemplified in the *Pine* and *Fir*. Pl. 5. f. 18.

CONGREGATED. When several little spikes or panicles are crowded together somewhat in a globular form. Examples are not uncommon amongst the Grasses; *Rough Cockfoot* is one.

CONICAL. The shape of the *Alpine Strawberry*, nearly resembling the form of a sugar loaf.

CONNECTED Leaves or Props; those that have their upper surface at the base growing to the stem or branch.

CONTIGUOUS. When a leaf, branch, or seed vessel rises up so perpendicularly as to stand almost parallel and close to the stem. The pods of the *Common Mustard* furnish an example; and the leaves of the *Cress Mithridate*. Pl. 9. f. 6.

CONVEX. Opposed to concave. Rising like the surface of a globe.

globe. The receptacle of the garden *Tarfy* is convex.

CREEPING *Stem*, creeping along the ground and sending forth little roots; the *Violet* and *Ivy* are instances. Pl. 10. f. 8.

—— *Root* as in the *Spear-mint*. Pl. 10. f. 7.

CRESCENT-SHAPED. Shaped like a new moon; as are the tips of the *Strawberry*.

—— *Leaf*. Pl. 7. f. 11.

CROOKED *Fruitstalk*; so much bent that the flower faces the earth, and so stiff that it cannot be straightened without breaking, as in *Crown Imperial*.

CROSS-PAIRS. When leaves grow in pairs, and each pair points in a different direction to the pair next above or below it. Thus if one pair point East and West, the pair next below it point North and South; the third pair crosses the second, and the fourth the third, and so on. Pl. 6. f. 1.

CROSS-SHAPED; *Flowers*, are those which have four petals disposed in the form of a cross. The *Gilliflower*, *Candytuft*, and *Cabbage* are familiar instances. Pl. 4. f. 11. f. 12.

CROWNED *Seed*; is a seed to which the cup of the flower adheres, as in *Teasel*; or it is a seed furnished with a feather as in *Dandelion*. Pl. 4. f. 22. f. 27.

—— *Berry*; is a berry with the flower cup adhering; as in the *Honeyfuckle*.

CUP. A species of empalement contiguous to the other parts of the flower. It either includes one flower as in the *Convallulus* and *Gilliflower*; or several flowers as in the *Sunflower* and *Daïse*. Pl. 5. f. 1. f. 10. f. 5. (a.) Pl. 4. f. 7.

(c.) f. 12. (b.) f. 15. 14. 18. (a. a.)

CURLED *Leaves*; as in *Endive* and *Curled Mint*. Pl. 8. f. 67.

CURVED. Bent back, so that the extremity is lower than the base. Pl. 9. f. 5. (c. c.)

CUT-ROUND. When a seed vessel does not open longways as is generally the case, but in a circle surrounding it, like a snuff box, as in *Pimpernell*. Pl. 5. f. 9.

CYLINDRICAL. The form of the trunk of a tree. Pl. 8. f. 6^d.

—— **STRAW**; *Bullrush*.

—— **STALK**; *Great Plantain*.

—— **STEM**; *Asparagus*.

—— **LEAF**; *Wild Garlic*; *Onion*.

—— **CUP**; *Fink*.

—— **CATKIN**; *Reedmace*.

DECIDUOUS *Leaves*; those that fall off at the approach of winter.

—— *Cut*; falling off before the blossom; as does that of the *Thorn-apple*, the *Cabbage*, the *Lady-smock* and the *Mustard*.

—— *Seedvessel*; falling off before it opens, as in the *Sea Rocket* and *Wood*.

DECLINING. Bent like a bow, with the arch downwards; as the seedvessel of the *Watercresset*, the threads of the *Bugloss*. See the lower chive in pl. 1. f. 11. f. 12.

DENTED. A blunt leaf, &c. with a dent or blunt notch at the end; as in the *Broad-leaved Sea Heath*.

DEPRESSED. When the surface of a leaf, &c. is in a small degree concave—pressed down—flattened.

DIAMOND-SHAPED. Applied to leaves that resemble the figure

figure of a diamond as painted on cards.

DIMPLE. A little hollow dot ; as in the seed of the *Berberry*.

DISTANT. Far asunder ; as the chives of the *Mint* ; or the whorls of the flowers in the *Corn Mint*.

DISTENDED. As the cup of the *Rose*, or the under part of the blossom of the *Foxglove*. Pl. 4. f. 4.

DISTINCT. A term applied to chives and pointals when they are not only found in different flowers, but these flowers must likewise grow upon different plants. See the 22d class. Thus in the *Yew Tree*, if you find it in flower and one of the flowers is furnished with chives ; all the flowers upon that particular tree have *only* chives and no pointals ; but if you find a flower with a pointal and no chives, then all the flowers upon that tree will be found equally destitute of chives. Pl. 1. f. 22.

DIVERGING. Spreading wide from the stem, almost horizontally. This term is opposed to *Compact*.

DIVISIONS. See the next article.

DIVIDED. Applied to a leaf, a cup, or a petal, it signifies that it is parted more than half way down ; as the petals of *Chickweed* ; the cup of *Comfrey* or *Borage*. Pl. 7. f. 28.

DOTTED. Marked with little hollow dots ; as are the leaves of the *S. a Chamomile*.

Or the receptacles of some of the compound flowers. Pl. 4. f. 27.

DOUBLED together. As are the leaves of the *Black Cherry* before they unfold.

DOUBLE. Applied to the tips of several flowers when upon one thread there are two tips united, like a double nut ; as in the *Ranunculus*, *Anemone*, *Celandine* *Plumb*, *Cherry*. Pl. 2. f. 6. (b.)

—— *Cup* ; when the cup of a flower hath another outer cup surrounding it, as in the *Marshmallow*, and *Hollyhock*.

—— *Seedbud* ; when two seed-buds are united together, as in *Goose-grass* or *Cleavers*.

DOUBLY-COMPOUND Leaves, are of three different kinds,

1. *Twinfork* ; when a forked leaf-stalk bears two little leaves at the end of each division or fork. Pl. 10. f. 4.

2. *Doubly threefold* ; when a leaf-stalk with three divisions bears three little leaves upon the end of each division. Pl. 8. f. 57.

3. *Doubly winged* ; a leaf stalk having lateral ribs and each of these ribs being a winged lobe ; example *Tansy*. *Tar-row*. Pl. 8. f. 56.

For leaves more than doubly compound, see *Triply compound*.

DOWNY. Covered with a whitish down ; as the leaves of the *Marshmallow* and *Great Mallow*.

—— *Seeds* ; the feather of seeds is sometimes downy, as in *Dandelion*. Pl. 4. f. 22. (l.) Pl. 6. f. 2. (b.)

DUST. A fine powder contained in the tips of flowers : it is too minute for the naked eye to examine, but by the assistance of a microscope, it appears very different in different plants : Thus in the *Bloody Geranium* it is a perforated globule ; in the *Marshmallow* like the wheel of a watch ; in the

Pansy

Pansie it is triangular; in the *Narcissus* kidney-shaped, and in *Comfrey* the globules are double. Pl. 3. f. 5. (f.) a tip discharging its dust. f. 8. A particle of dust greatly magnified.

DUSTED. Some plants appear as if covered with a kind of dust or powder. c. g. the *English Mercury*.

EAR-SHAPED. Somewhat resembling a human ear.

ELLIPTICAL. The same as *oval*.

EGG-SHAPED. Signifies a shape resembling the solid substance of an egg as in the seedbud of *Jacob's Ladder* and the seeds of *Pennet*; or it implies only the form of an egg if divided longways, as in the leaves of the *Beech tree* or *Peppermint*. Pl. 7. f. 2.

EMBRACING the Stem. When the base of a leaf half surrounds a stem, as in *Solomon's Seal*, *Poppy* and *Borrage*. Pl. 9. f. 4. (f.)

EMPALEMENT. Is a continuation of the outer bark of a plant constituting a part of the flower. It is either a

———— **CUP**; as in *Primrose*; pl. 3. f. 10. a.

———— **FENCE**; as in *Carrot*; pl. 6. f. 9. (c. c.) a

———— **CATKIN**; as in *Hazel*; pl. 6. f. 12. a

———— **VEIL** as in several *Mosses*; pl. 1. f. D. (a) a

———— **HUSK**; as in *Oats*; pl. 2. f. 21. (a. a.) a

———— **SHEATH**; as in *Narcissus*; pl. 3. f. 9. (a. a.) or a

———— **CAP**; as in several *Fungusses*. Pl. 1. f. H. (c) See those terms.

ENTIRE Leaf or Petal. This term is opposed to cloven, gashed, indented, &c. but it does not signi-

fy that it is not serrated or scalloped. When a leaf is said to be very entire we understand that it is not so much scalloped or serrated. The leaves of a *Nettle* are *entire*, but those of a *Lilac* are *very entire*. pl. 7. f. 31. 35. entire leaves. f. 39. 4c. very entire lerves.

EQUAL. Sometimes signifies regular; all alike; as the blossoms of *Angelica*. The florets forming the compound flowers in the first order of the 18th class, are said to be equal; that is all are alike in being equally furnished both with chives and pointals.

ESSENTIAL Character; Is a single circumstance serving to distinguish a species or a genus from every other species or genus. Thus the genus *Crowfoot* (*Ranunculus*) is distinguished from other genera by the honeycup at the base of each petal; and the *Colewort* is known from all the other genera in the same natural order, by the four longer threads being forked at the top.

EXCRESCENCE. A substance growing from the seat of the flower of some of the Mosses.

EXPANDING. Standing in a direction betwixt upright and horizontal; as the petals of the *Strawberry*, the branches of most plants, and the leaves of the *Brooklime* *Speedwell*. Pl. 9. f. 5. (c. c.)

EYE. The external scar upon a seed by which it was fixed to the seedvessel; it is very remarkable in a *Bran*. Pl. 6. f. 3. (c.)

FEATHER. The downy or hairy substance affixed to the seeds of some plants, enabling the wind to scatter them abroad. The feather of the *Dandelion* is downy; that of the *Scorbutifolia* hairy. Pl. 4. f. 22. (l.) pl. 6. f. 2. (a. b.)

FENCE

FENCE. The Empalement of a rundle: it is placed at some distance from the flowers. It is either *General* or *Partial*. The *Carrot* furnishes instances of both. The *General* Fence is placed under the rundle; the *Partial* under the rundlets. Pl. 6. f. 9. (c. c.) (d. d. d. d.)

FERTILE Flowers; those that produce seed capable of vegetation: as is very generally the case in those flowers that have both chives and pointals. Flowers that have only chives never can produce seeds; and flowers that have only pointals must be barren, if they are so situated as to be out of the dust from the tips of the barren flowers: In some instances they will indeed produce seeds to all appearance perfect, but these seeds will never vegetate.

FIBROUS Roots; composed of small threads or fibres. Pl. 10. f. 7.

FIDDLESHPED. The shape of a leaf of one species of Dock, that is supposed to resemble a violin.

FINGERED Leaves; resembling the expanded fingers of a man's hand. e. g. those of the *Wild black Hellebore*, *Lupine* and *Horse Chestnut*. Pl. 7. f. 48.

FLESHY. More solid than pulpy; as the fruit of the *Apple*; the root of the *Turnep* and the leaf of the *Round leaved Stonecrop*.

FLEXIBLE Branches; easily bending; as those of the *Barren Strawberry*.

FLOATING. Applied to aquatic plants whose leaves or flowers float upon the surface of the water: e. g. *Waterlily*.

FLORAL LEAVES differ in shape or colour from the other

leaves of the plant; they are generally placed on the fruit-stalk, and often so near the flower as in some instances to be easily mistaken for the cup; but the cup dries or withers when the fruit is ripe, whereas the floral leaves endure as long as the other leaves of the plant. Examples of floral leaves may be seen in the *Pansie*, the *Limetree*, the *Hellebore*, the *Passion flower*, the *Sage*, the *wild Marjoram*; and many others. Pl. 9. f. 8. (a. a.)

FLORET (a little flower) one of the small flowers composing a compound or incorporated flower. See the introduction to the 19th class. They are *Tubular*; that is, formed of a tube cloven into five parts at the border; as in *Tansy*; or *Narrow* when the blossom is long and strap-shaped as in *Dandelion*. In the *Daisy* and *Sunflower* the florets in the center are *Tubular*, and those in the circumference *Narrow*, or *Radiate*. Pl. 4. f. 21. f. 24. f. 26. In the second order of the fifth class the florets composing the rundles are composed of five petals. When the petals are all of the same size and shape the florets are said to be *equal*; as in *Angelica* and *Celery*; but when the outer petals are larger than the others, the florets are said to be *Radiate*; as in *Shepherds Needle* and *Carrot*.

FLOWER. A temporary part of a plant appropriated to the production of seeds. It is composed of seven parts; the *Empalement*; the *Blossom*; the *Chives*; the *Pointals*; the *Seed-vessel*; the *Seeds*; and the *Receptacle*. To these perhaps we may add an eighth viz. the *Honey-cup*. It is not necessary that all these parts should be present,

sent to constitute a flower. *Imperfect* flowers are deficient in one or more of the parts. The *Hyacinth* and *Tulip* have no cup. The *Mistletoe*, *Gale*, *Hop*, *Yew*, *Dog's Mercury*, *Nettle*; and the flowers of the plants bearing catkins, have no blossoms. The *Ground Ivy*, the *white* and *red Deadnettle*, and all the plants in the first order of the fourteenth class have no seed-vessels.

FORKED. Dividing into forks as the branches of most of the *Spurges*; the fruit-stalks of the *Common Calamint* and the *Pink*; the *Shaf* of the *Currant*. Pl. 10. f. 4.

FOURCORNERED. As the stem of the *Deadnettle*.

FRINGED. As the blossom of the *Buckbean* and the *Garden Nasturtium*; or the leaves of the *Cress-leaved Heath*.

FRUIT. A part of a flower, consisting of the *Seedvessel*, the *Seed* and the *Receptacle*.

FRUITSTALK. A part of a stem or branch, bearing flowers but not leaves. Pl. 9. f. 8. (c.) pl. 6. f. 7. (a. a. a. a. a.)

FUNNELSHAPED; A blossom of one petal; the lower part of which is tubular, the upper part conical, as in *Hounds-tongue*, *Bugloss*, *Cosytops*. Pl. 4. f. 7.

———— *Cup*; as in *Thrift*.

FURROWED. Marked with deep lines running length-ways.

GAPING Blossoms; So called from their resemblance to a gaping mouth. *Toadflax* and *snaydragon* are instances. Pl. 4. f. 8. c. 10.

GASHED. Divided nearly half way down, into lobes that are convex at the edges and distant from each other; as the leaves of *Ladies*

Mantle and *Water-elder*. Pl. 7. f. 19.

GENERAL FENCE. A species of empalement surrounding a general rundle, as in a *Carrot*, *Angelica*, or *Lowage*. It consists of one, or more leaves. Pl. 6. f. 9. (c. c.)

GENERIC Character. consists of an accurate description of the different parts composing a flower, and all those plants whose flowers agree with this description are species of the same genus. (See the introduction.)

GILLS. The thin plates on the under side of the Hats of the Fungusses, remarkable in Mushrooms.

GLANDS. Secretory vessels, differently situated in different plants. In the *Willow* they are placed at the margins of the leaves; in the *Bird's Cherry* and *Almond Tree* at the base of the leaves; in *Butterwort* and the *Sundew* upon the leaves, and in the *Plumb* on the inner side of the cups. Pl. 10. f. 6. (c. c.) pl. 11. f. 1. (a. a. a. a.)

GLASS-SHAPED. Tubular but dilated towards the top like a drinking glass; as the cup of *Jacob's-ladder*; the summits of the *Field Southern-wood*, the honey-cup of the *Nettle*.

GLOBULAR. Like a round ball; as the cup of the *Burdock*; the seedvessel of the *Flax*; the seed of the *Pea*; the capsule of the *Poppay*. Pl. 7. f. 7.

GLOSSY. Smooth and shining; as the seedbud of the *Secret-briar*; the leaves of the *Holly*, *Ivy*, and *Bor*.

GNAWED. As when a leaf is indented, and appears as if it had been

been gnawed or bitten at the edges. Pl. 7. f. 21.

GRANULATIONS. The small berries which join together and compose a large one, as in the *Mulberry*, *Blackberry* or *Raspberry*.

HAIRLIKE. Slender, undivided and cylindrical; as the threads in *Plantain*, *Raygrass*, *Reed*, and most of the *Grasses*.

HAIRS. Are supposed to be secretory ducts.

HALBERD - SHAPED. As the floral leaves of the *Pansie*; the leaves of *Sheeps Sorrel*, and *Cuckow-pint*. Pl. 7. f. 17.

HAND-SHAPED. resembling a human hand with the fingers expanded; as the leaves of *White Briony*; *Passionflower*; and the roots of *Spotted Orchis*. Pl. 7. f. 22.

HAT. The upper broad expanding part of Fungusses. In Mushrooms the hat is often called the flap. Pl. 1. f. H. (c.)

HEADED Stalk. When a stalk supports one compact knob or head of flowers upon its extremity, as in *Thrift*.

HEADS Of Flowers; when flowers grow together in compact knobs; as in *Peppermint*, *Watermint*; *Common Thyme*.

HEART. That part of a seed which is the future plant in miniature. Pl. 6. f. 2. (b.)

HEART - SHAPED. A term used to express the form of a petal, a leaf. &c. the leaves of *Waterlily*, *Deadnettle*, *Burdock* and *Violet*, are heart-shaped. Pl. 7. f. 10.

HELMET. A term to express the upper part of a gaping blossom, which bears some resemblance to a helmet. See the introduction to the 20th class.

HEMISPHERICAL. In the shape of half a globe; as the cup of the *Tansey*.

HERBACEOUS Stem. One that is succulent and tender, in opposition to one that is woody: it perishes annually down to the root. The *Pea* and the *Nettle* are instances. The stem of the *Gillflower* is somewhat woody.

HONEYCUP. A part of a flower designed to secrete and contain honey. In flowers that have only one petal the tube of the blossom contains the honey; or else it is contained in a sort of horn-shaped appendage as in the *Butterwort*. In the *Violet*, the *Larkspur*, the *Columbine*, the *Fumitory*, &c. it is a sort of spur, or horn. In the *Ranunculus*, the *Lily*, the *Crown Imperial*, &c. it is a hollow cavity in the substance of the petals. In the *Daffodil* and *Hellebore* it is tubular. In the *Fraxinella* and *Campanula* it is fixed to chives; in the *Gillflower*, *Turnip*, &c. it is placed on the seedbud in form of a gland. Its structure is no where more singular or beautiful than in the *Grass of Parnassus*. Pl. 5. f. 1. (a.) f. 2. (a. a. a. a.) f. 3. (a. a.) f. 4. (a.)

HOODED. A term applied to leaves that are rolled up, as the grocers roll paper to put sugar or spices in, like a cone; as the leaves of *Wall Pennywort*.

HORIZONTAL. A leaf or branch that grows from the stem pointing to the horizon, and parallel to the surface of the earth. Pl. 9. f. 5. (d. d.)

HORNSHAPED. Like the honeycup of the *Larkspur*. Pl. 5. f. 4. (a.)

HUNCHED.

HUNCED. Swelled out, as the under part of blossom of the *Foxglove*, the *Blossom* of the *Honey-suckle*; the cup of the *Turnep* and the *Wall-flower*. Pl. 4. f. 12. (b)

HUSK. The empalements and the blossoms of grasses are called the husks, they are thin, dry, and semi-transparent like chaff: a husk consists of one or more leaves called *Valves*, and when contiguous to the other parts of the flower, inclosing the chives and pointals, answers the purpose of a *Blossom*: but when placed on the outer-side and inclosing the inner valves, as well as the chives and pointals, it is called the empalement. The empalement frequently contains several florets. See the plate of *Grasses*.

JAGGED-Leaves; those that are variously divided into lobes and these lobes again divided in an irregular manner. The *Pansy* is an instance. Pl. 7. f. 24.

IMPERFECT-Flowers; those that want either the cup or the blossom. The *Tulip* wants a cup, and the *Nettle* is without a blossom.

INCORPORATED. When a number of little flowers or florets, are so disposed as to form one compound flower; all of them either inclosed within one common empalement, or situated upon one common receptacle; so that none of them can be taken away without destroying the uniformity of the whole. Thus the flowers of *Thrift*, *Parley*, *Teasel*, *Scabious*, *Daisy*, are incorporated; several small flowers, or florets, combining to form one large flower.

INDENTED-Leaf; the sides of the leaf are hollowed or deeply scalloped, the lobes standing asunder as if part of the leaf had been cut out. The leaf of the *Turnep* is a

familiar example. See also pl. 7. f. 25.

INDIVIDUAL-Blossom; the blossom belonging to a single floret in a compound flower. Thus in a *Carrot* each floret is composed of five petals which constitute the blossom of that individual flower. The individual blossoms in *Tansy* are all tubular; in *Dandelion* they are all long and strap-shaped. In the *Sun-flower* they are tubular in the center and strap-shaped in the circumference. Pl. 4. f. 21. f. 26.

INFLEXIBLE. Stiff; not easily bending: opposed to *Limber*.

INTERRUPTED. Broken in its regular form; as the spike of *Woodbetony*; the leaves of some species of the *Ladies-finger*. A spike may be interrupted by the intervention of leaves or smaller sets of flowers; a winged leaf is interrupted by the intervention of smaller pairs of little leaves. Pl. 8. f. 55.

INVERSELY-HEART-SHAPED. With the point of the heart next to the stem; as the seed-vessel of the *Shepherds Purse*; the petals of *Geranium* or *Marsh-mallow*; and the leaves of some of the *Trefoils*. Pl. 8. f. 69.

JOINTED-Stem. A Wheat-straw is an instance familiar to every one. Pl. 10. f. 3.

- - - - - *Leaves*; as in the *Indian Fig*. pl. 9. fig. 3. (a.)

IRREGULAR. A term applied to compound flowers wherein the florets are not uniform; as in the *Carrot* and *Coriander*.

- - - - - *Blossom*. See *Regular*.

KEEL. A name given to the lowermost petal in a butterfly-shaped blossom, from its supposed resemblance to the keel of a ship: see the introduction to the 17th class.

class. See also Pl. 4. f. 17. and f. 13. (d)

KEEL-SHAPED. Bent like the keel of a ship or boat; as the shaft of the *Pea*; the empalement of *Cannary Grass*. Pl. 2. f. 10. (a. a.)

KIDNEY-SHAPED. As the seed of the *French Bean*, the *Tips* of the *Mallow*; the leaves of *Ground Ivy*; *Golden Saxifrage*, and *Meadsweet*. Pl. 7. f. 9.

KNEE-JOINTED. When a straw or stem is a little bent at the joints.

KNOB See *Head*.

LACTESCENT. Abounding with a milky juice.

LAMINATED. When the flat surfaces of leaves lie close one upon another.

LATERAL *Branches*; growing from the sides of the stem: opposed to *terminating*.

——— *Flowers*; those that grow from the sides of the stems or stalks; thus the spikes of flowers in the common *Speedwell* grow on lateral fruitstalks; or on fruitstalks proceeding from the sides of the stem.

LEAFSTALK. The foot-stalk of a leaf. It supports the leaves but not the flowers. In the *Great Periwinkle* the leaf stalks are very long. Pl. 9. f. 4. (a. b. c.)

LEAFY. Furnished with leaves. ——— *Cup*; when the base of a cup is surrounded by a series of leaves different from those which form the cup.

——— *Seed*; a seed that is surrounded by a thin leafy edge, as in *Cow's Madnap*.

LEATHERY. Tough and pliable like leather; e. g. the cup of the *Corn Cockle*, and most of the plants in the third division of the 24th class.

LEVEL. When several branch-

es or fruitstalks grow to equal heights, so as to form a flat surface at the top; as in the flowers of the *Sweet William*.

LID. A cover to the tips of several of the Mosses; as in the *Bogmoss*. Pl. 1. f. D. (b.)

LIMB. The upper part of a petal, in blossoms composed of more than one regular petal. Thus in the *Wall-flower*, the upper flat broad part of the petals is called the limb. The lower slender part included within the cup is called the claw. Pl. 4. f. 11.

LIMBER *Fruit-stalk*; bending with the weight of its own flowers.

LIP. The upper or under division of a gaping blossom. The *Dead-nettle* and the greater part of the plants in the 14th class furnish examples. See the introduction to that class. See also pl. 4. f. 8. f. 9. and f. 10.

LITTLE *Fruit-stalks*; the little foot-stalks that support an individual flower, when there are several flowers upon one common fruit-stalk.

LOBES. The divisions of a *Gashed* leaf; see gashed. The lobes are rounded at the edges and stand distant from each other. The leaves of the *Hop*, *Asclepias*, *Hepatica*, and *Spearmint* furnish examples. Pl. 7. f. 17. f. 19.

LONG. A cup is said to be long, when it is equal in length to the tube of the blossom.

LOPPED. Appearing as if cut off with a pair of scissors: the leaves of the *Great Bindweed* are lopped at the base, the petals of the *Periwinkle* are lopped at the end. Pl. 8. f. 62.

LYRE-SHAPED. As the leaves of *Herb-Round*. Pl. 8. f. 62.

MATTED. Thickly interwoven

ven together as the fibres in turfbogs.

MEMBRANACEOUS. Thin, skinny, and tough.

— *Stem*; when the edges of the stem are bordered with a thin leafy substance, as in *Water Figwort* and *Broad Leaved Praje Everlasting*.

MOUTH. The upper part of the tube of blossoms, consisting of a single petal; as *Borage*, *Hounds-tongue*, *Deadnettle*. Pl. 1. f. 9. (d. d.)

NARROW. The florets in some species of compound flowers are tubular at the bottom, but flat and narrow like a strap or filler at the top. In *Dandelion* the florets are all narrow: in the common *Daïsie* the florets in the circumference only, are narrow. Pl. 4. f. 10. f. 21. f. 22.

NAKED *Stalk*; destitute of leaves; as the stalk of the *Tulip* or *Lily of the Valley*.

— *Mouth*; when the mouth of the tube of a blossom is not closed by valves or hairs. The mouth of the blossom of *Borage* is closed by five valves, or teeth: but that of *Gromwell* is open and *Naked*.

— *Receptacle*; neither chafsy nor hairy; as that of the *Daïsie*.

NODDING *Flower*; when the fruitstalk is bent near the end, as in the *Chequered Daffodil*, *Narcissus* and *Jonquil*. Pl. 3. f. 9.

NOTCHED at the end; as the petals of the *Sisal campion*; and *Doe's-foot Crane's-bill*; the little leaves of *Vetch*; the leaves of the common *Maple*. Pl. 7. f. 16.

NOTCHED Leaves. The edges cut something like the teeth of a large timber saw. *Dandelion*, *Broad leaved Watercress*, *Long rooted Hawk's-eye* and *Smooth Succory Hawkweed* are examples.

NUT. A seed covered by a hard woody shell; e. g. the *Hazel Nut*. This woody shell is sometimes covered by a soft pulpy or fleshy substance as in a *Peach*, or *Apricot* and then it is called a *stone*. Pl. 5. f. 21.

OBLONG. Longer than broad, and rounded at the ends; as the leaves of the *Daïsie*; the tips of the *Honeysuckle*. Pl. 7. f. 5.

OPEN. Standing wide.

OPPOSITE. Growing on the opposite sides of the stem, but at the same height from the ground; as the leaves of the *Nettle*. In pl. 9. f. 5. all the leaves are opposite.

OVAL. As the leaves of box. Pl. 7. f. 4.

PALATE. The inner part of the mouth of gaping blossoms. Pl. 4. f. 10. (c.)

PANICLE. An assemblage of flowers growing without any very regular order, upon fruit-stalks that are variously subdivided; e. g. *Oats*. Pl. 6. f. 6. It is said to be

— *Spreading*; when the partial fruitstalks diverge and stand wide asunder, as in the *Common* and *Reed Meadowgrass*.

— *Compact*, when they stand near together as in the *Sheep's Fescue*, and *Purple Hairgrass*.

PANICLED Bunch; an assemblage of flowers partaking the properties of a panicle and a bunch. See those terms. *Golden Rod* may serve for an example.

— *Spike*; an assemblage of flowers partaking the properties of a panicle and a spike; as the *Wall Fescue* and the *Matured Canary Grass*, in which the collections of florets resemble a spike in their general appearance, but the florets are furnished with fruitstalks, shorter than themselves.

PARA-

PARASITICAL *Vegetables*; not taking root in the earth but growing upon other vegetables. Thus *Mistletoe* is found to grow upon the Apple Tree, the Pear, the Lime, the Elm, the Poplar, the Hawthorn and the *Buckthorn*, but never upon the ground.

PARTIAL. Belonging to a part, not to the whole.

—— **FENCE.** Pl. 6. f. 9. (*d. d. d. d.*)

PARTITIONS. The substances dividing seed-vessels into different cells. Thus the Seed-vessel of *Jacob's Ladder* is divided into three cells; and if you cut a Lemon across you will plainly see the partitions that divide it into nine cells. See also pl. 5. f. 14. (*b. b. b. b.*)

PENCILSHAPED. Like a camel-hair pencil; as the summits of *Millet*, or the appendages to the blossoms of the *Meadow Milkwort*. Pl. 2. f. 11. (*c. c.*)

PENDANT. Hanging down; as the bunches of the *Red Currant*; the cones of the *Scotch Fir*; the flowers of the *Columbine*.

PERENNIAL. Continuing for several years.

PERFORATED *Leaves*; when the stem seems to go through the leaves; as in the *Round-leaved Thoroughwort*. Pl. 9. f. 4. (*g.*)

PERMANENT *Cup*, remaining; till the fruit is ripe; as in *Borage*; *Currant*; *Pink*; and *Dead-nettle*.

PETALS. The leaves which constitute the blossom are called *Petals*, to distinguish them from the other leaves of the plant. See Pl. 3. f. 2. (*a. a. a. a. a. a.*) Pl. 4. f. 12. (*a. a. a. d.*)

PILLAR. The cylindrical substance that supports the hat of a fungus, e.g. the *Common Mushroom*:

also the little shaft upon which the feather of downy seeds is placed, as in *Dandelion*. Pl. 1. f. H. (*b.*) Pl. 4. f. 22. (*i.*) Pl. 6. f. 2. (*d.*)

PITH. A soft spongy substance filling up the cavity in the stems of some plants; as in the *Rush* and the *Elder*.

PLAITED. Folded in plaits; as the blossom of *Convolvulus*; the cup of *Thrift* and the leaves of *Ladies-mantle*. Pl. 7. f. 37.

POD. A seed-vessel of two valves, within which the seeds are fixed alternately to each seam. When long it is called a pod, as in *Gilliflower*; when broad and short it is called a *Pouch*, as in *Honefly* and *Shepherd's Purse*. Pl. 5. f. 10. f. 11. f. 12. f. 17.

POINTAL. A part of a flower, composed of the *Seedbud*, the *Shaft* and the *Summit*. Look into the blossom of a *Plumb* or *Cherry*, and in the center you will see the pointal surrounded by chives. In the blossom of the *Apple* or *Pear*, you will perceive five pointals in the center. In the *Dead-nettle* you will find the pointal covered by the upper lip, and forked at the top. In the center of the blossom of the *White Lily*, the pointal stands surrounded by six chives. The *Seedbud*, which is the lower part of the pointal is long, cylindrical, and marked with six furrows. Next above this part is the *Shaft* which is long and cylindrical, and at the top of the pointal is the *Summit*, which is thick and triangular. See pl. 3. f. 2. (*d. c. f.*) f. 1. (*i. k. l.*) f. 5. (*c. d. c.*)

POINTING *from two opposite* *Teeth*; like the teeth in a double box or ivory comb. The leaves of the *Common Fir* and the flowers of *St. Asaph's* are examples.

— *one way*; as the flowers of the *Foxglove*: the *Cocksfoot*, and the *Sheeps Fescue Grass*. Pl. 2. f. 12. (d.)

PORES. Little holes. At the inner side of the base of the petals, in all the species of *Ranunculus* or *Croxyfoot*, are little pores filled with honey. See also pl. 3. f. 3. (k.)

POUCH. See **POD**.

PRICKLES. Sharp-pointed weapons of defence formed from the bark, and not from the woody part of a plant. The prickles of the *Rose* are a familiar example. Pl. 10. f. 2.

PROLIFEROUS *Blossoms*; when one grows out of another, as is not uncommon in the *Polianthus*.

— *Shoots* when one shoot springs out of another, as in the *Proliferous Feather-moss*.

PROMINENT. The partition of a seed-vessel is said to be prominent, when it projects beyond the valves, as in *Cabbage*, and many other plants of the fifteenth class.

PROPS. Small leaves or scales situated on each side the base of a leaf-stalk or fruit-stalk, for the purpose of supporting them at their first appearance. They are sufficiently evident in the *Garden Pea*. Pl. 10. f. 6. (b. b.)

PROTUBERANCES in seed-vessels; occasioned by the swelling of the inclosed seeds. They are sufficiently evident in the pods of *Mustard*, and in some sorts of *Beans*.

PULPY. Soft and tenacious. A *Strawberry* and *Cherry* is pulpy; but an *Apple* is fleshy.

PULVY Seed-vessel; consists of a nut or stone encompassed by a pulpy substance, exemplified in the *Plumb*, the *Cherry*, and the *Peach*. Pl. 5. f. 21.

PURSE-SHAPED. Like a purse that draws together with strings at the top; as the seed-vessel of the *Purple Marshlocks*, or the honey-cup of the *Satyrion*.

RADIATE. A species of compound flowers in which the florets of the center differ in form from those in the circumference. Thus the *Daïsie* and *Sunflower* are radiate flowers; the florets in the center are all tubular, but those in the circumference are narrow or strap-shaped. Pl. 4. f. 24.

— *Summits*; placed in a circle; as in the *Poppy*. Pl. 5. f. 5. (b.)

RECEPTACLE. One of the parts necessary to compose a flower. It is the base or seat upon which the other parts of the flower are placed. Pl. 4. f. 11. (c.) f. 23. (a.)

REFLECTED. Bent back, as the segments of the cup of the *Currant*; the petals of the *Flower de Luce*; the blossoms of the *Hyacinth* and *White Lily*. Pl. 4. f. 5.

REGULAR Blossom; one that is regular in the figure, size, and proportion of its parts; as the *Jessamine* and *Syringa*.

REMOTE Whorls; when there is a considerable length of stem betwixt each whorl. Pl. 6. f. 11. (a. a. a.)

RIGID. Inflexible; opposed to limber and flexible.

ROLLED BACK. As the lateral edges of the leaves of *Rosemary*; the ends of the leaves of *Sweet Williams*, the summits of the *Pink*. Pl. 1. f. 19. (c. c.)

ROOT may be *Fibrous*, *Bulbous*, *Tuberous*, *Bundled*, *Creased*, *Spindle-shaped*, or *creeping*; see those terms. See also pl. 11.

ROOT-

ROOT-LEAVES. The leaves that proceed immediately from the root without the intervention of a stem. They often differ in shape and size from the other leaves. The *Field Bellflower* furnishes an example. Pl. 9. f. 7.

RUNDLE. A composition of flowers in which a number of slender fruit-stalks proceed from the same center, and rise nearly to the same height, so as to form a regular surface at the top. *Hemlock*, *Carrot*, and *Cowparsnip* are examples. Rundles of flowers are frequently called Umbels; and the plants producing them are said to be *umbelliferous* plants. Pl. 6. f. 9.

RUNDLET. A little rundle. The fruit-stalks which compose a rundle are often divided at the top into several smaller fruit-stalks, and these smaller sets of fruit-stalks are called *Rundlets*. *Hemlock*, *Carrot*, and *Angelica* furnish instances. The fruit-stalks of a rundle and of a rundlet, are called *Spokes*. Pl. 6. f. 9. (b. b. b. b.)

RUNNING *along the Stem*; means that a leaf has no leaf-stalk, and that its base is attached to the stem for a considerable length. The *Great White Mullein* and the *Musk thistle* are examples. Pl. 9. f. 4. (c.)

SALVER - SHAPED. The shape of a blossom of one petal, the lower part of which is tubular, the upper part flat and expanded; as the blossom of the *Perriswinkle*, and the *Mouset-eat scorpion Grass*. Pl. 4. f. 1.

SAUCER. A sort of flower of the *Cupthong* that is circular and concave like a china saucer. Pl. 1. f. F.

SCALY. Like the skin of a

Fish; as the cups of *Burdock*. Pl. 4. f. 25. (a.)

SCATTERED. Disposed without any regular order.

SCOLLOPED. Inspect the edges of the leaves of *Bird's-eye* and *Gill*, and you will have a true idea of this term. Pl. 7. f. 35. 34. 32.

SCORED. Marked with superficial lines, as the cup of a *Pink*, or the stems of *Lutebri-broom*.

SEAM. The line formed by the union of the valves of a seed-vessel. Thus the pod of a *Pea* is a seed-vessel of two valves, and the two seams where the valves join are sufficiently conspicuous. As also in pl. 5. f. 6.

SEED. A deciduous part of a vegetable containing the rudiments of a new plant. It consists of the *Heart*; the *Seed-lobes*; the *Eye* and the *Seed-coat*: See those terms. Sometimes it is crowned with the cup of the flower, and sometimes it is winged with a feather, or with a thin expanded membrane, which enables the wind to waft it abroad. See pl. 4. f. 22. and pl. 6 f. 3.

SEEDBUD. The lower part of a pointal. It is the rudiment of the embryo fruit. See *Pointal* Pl. 3. f. 2. (d.) f. 5. (c.) f. 7. (i.)

SEEDCOAT. The proper coat of a seed which falls off spontaneously. It is remarkable in *Spindle-tree*, *Hound's-tongue*, the *Cucumber*, the *Fraxinella* and the *Mallow*. Some seeds have only a dry covering or skin, as the *Bean*. Pl. 6. f. 1 (c. c.)

SEEDLOBES. The perishable parts of a seed, designed to afford nourishment to the young plant when it first begins to expand. A
E c 3 bean

bean after being soaked in water or moist earth, easily parts with its external skin, and divides into two parts called the *Seed-lobes*. Pl. 6. f. 3. (a. a.)

SEEDVESSEL. A vessel to contain the seed. It is of several kinds; as a *Capsule*; a *Pod*; a *Shell*; an *Airbag*; *Pulpy* including a nut or stone; an *Apple*; a *Berry*; and a *Cone*: see those terms. See also pl. 5.

SEGMENT. The small parts of a leaf, a cup, or a petal included betwixt the incisions.

SEMI-CYLINDRICAL; If the trunk of a tree was sawed lengthways through the middle, each part would be semi-cylindrical. The stalk of *Ranunculus* is in this shape.

SEMINAL - LEAVES; those that arise immediately from a seed.

SEPARATE. Chives and pointals are said to be separate when they are found upon the same plant, but within different empalements. Thus in the *Box*; the *Birch*; the *Cucumber*; and the *Melon*, some of the empalements contain chives and others contain pointals; but none of them contain both together. Pl. 1. f. 21.

SERPENTINE. The edge of some leaves is formed like a serpentine line; without any angles or corners. Pl. 7. f. 20.

SERRATED. Like the teeth of a common saw; as are the edges of the leaves of the *Apple*; the *Pear*, the *Spearmint*, the *Dead-nettle*, the *Sneezewort* or *Goose-tongue*, &c. Some leaves are *Doubly serrated*; that is the teeth are again cut into other little teeth; the *Common Elm* is an example. Pl. 7. f. 31. 32.

SHAFT. A part of a pointal; standing upon the seed-bud and supporting the summit. See *Pointal*. Pl. 3. f. 2. (a.) f. 5. (d.) f. 7. (k.)

SHARP. As the leaves of the *Jessamine* or the segments of the cup of the *Primrose*. Pl. 3. f. 10. Pl. 7. f. 40.

SHEATH. A species of empalement, exemplified in the *Crocus*, the *Iris*, and the *Daffodill*. Pl. 7. f. 9. (a. a.)

SHEATHED Fruit-stalk; one that is furnished with a sheath. Pl. 3. f. 9. (d.)

SHEATHING Leaves; when the base of a leaf enfolds the stem; as in most of the *Grasses*. Pl. 9. f. 4. (i.)

SHEDDING. Continuing but a short time. Applied to a cup it signifies that it falls off before the the blossom, as in *Poppy*.

SHELL. A seed-vessel of two valves, wherein the seeds are fixed to one seam only; as in the *Pea*, and most of the plants in the fourth order of the seventeenth class. Pl. 1. f. 16.

SHORT. A cup is said to be short when it is shorter than the tube of the blossom, as in pl. 4. f. 7. (c.)

SHRIVELLING. Fading and withered, but not falling off. e. g. The blossoms of *Plantain* and *Stitchwort*.

SHRUBBY. Somewhat woody, as the stems of the *Rose*.

SIMPLE; Undivided.

— *Stem*; one that is undivided; only sending out small branches.

— *Leaf*; when there is only one upon a leaf-stalk.

— *Cup*; one that consists of a single series of segments; e. g. *Goosebeard*.

— *Stalk*;

— *Stalk* ; undivided ; as the stalks of *Tulips* and *Thrift*.

SINGLE. One flower only upon a stalk ; as the *Tulip*.

SIFTING *Leaves* ; have no leaf-stalk ; as *Spearmint* and *Hound's-tongue*.

— *Flowers* ; are those that have no *Fruit-stalk*, as the flowers of *Mexcreon*.

SKINNY. Tough, thin, and semi-transparent ; as the cup of *Thrift*.

SOLITARY. Only one in a place ; as but one flower on a fruit-stalk, and only one fruit-stalk proceeding from the same part of a plant.

SPATULA - SHAPED. The form of a leaf. Pl. 8. f. 64.

SPEAR - SHAPED. As the leaf of *Ribwort* *Plantain* and *Spearmint*. Pl. 7. f. 6.

SPECIFIC - CHARACTER. One or more circumstances of a plant sufficient to distinguish it from every other plant of the same genus. The specific characters are generally taken from the leaves or stem ; sometimes from the flowers ; but seldom from the roots.

SPIKE. A composition of flowers placed alternately on each side of a common simple fruitstalk, and not standing upon little fruitstalks. *Great Mallein*, *Agrimony*, and many of the *Grasses* have their flowers collected into spikes. Pl. 6. f. 5.

SPIKE-STALK. A long rough receptacle upon which the flowers composing a spike are placed. Take a spike (or as it is frequently called, an ear) of *Wheat* ; pull off all the seeds and chaff ; what remains is a *Spike-stalk*. Pl. 2. f. 24, (c. c.)

SPINDLE-SHAPED *Root*. c. g. a *Carrot*. Pl. 11. f. 6.

SPIRAL. Twisted like a cork-screw. Pl. 10. f. 6. (a. a.)

SPOKES. The fruit stalks of flowers collected into *Rundies* or *Rundlets* : see those terms. They spring from one point and diverge like the spokes of a cart wheel. Pl. 6. f. 6. (c. c. c. c.)

SPREADING. Not rising high, but spreading wide upon the ground ; as the stems of *Fumitory* and *Pansie*.

SPUR. Shaped like the spur of a cock, as the honey-cups of the *Larkspur*.

STALK. That species of trunk which elevates and supports the flowers, but not the leaves of a plant. It differs from the *Fruit-stalk*, for that springs from the stem, or branches ; but this rises immediately from the root ; as in *Narcissus* ; *Lilly of the Valley*, and *Hyacinth*. Pl. 6. f. 4.

STANDARD. The upright petal of a butterfly-shaped blossom ; as in the *Pea*. See the introduction to the 17th class. See also pl. 4. f. 12. (b. f. 14. b.) f. 15.

STARRY. Plants whose leaves grow in whorls round the stem ; as the *Goosegrass*, *Cheese-rennet*, and several other plants in the fourth class. Pl. 9. f. 3. (b. b.)

STEM. The proper trunk of a plant supporting the leaves, branches and flowers. It rises immediately from the root.

STEM *Leaves*. Such as grow immediately upon the stem without the intervention of branches.

STINGS. Sharp pointed substances conveying poison into the part they penetrate. Few people are ignorant of the sting of a *Nettle*.

STONE. See *Nut*.

E c 4

STRAD.

STRADDLING ; Branches standing wide from each other.

STRAP-SHAPED. Long and narrow like a strap or a fillet ; as the leaves of *Thrift* ; *Crocus* and *Rosemary*. Pl. 7. f. 7.

STRAW. A kind of trunk proper to Grasses. Pl. 10. f. 3.

STRINGS. Woody fibres in leaves running undivided from the base to the extremity ; as in the broad and narrow leaved *Plantain*. pl. 7. f. 46.

SUCKERS. Shoots that rise from the root, spread along the ground and then take root themselves ; as in the *Sweet Violet*.

SUMMIT. The upper part of a pointal. See *Pointal*, pl. 3. f. 2. f. 5. (c.) f. 7. (h.)

SUPERIOR Cup or Blossom : when the cup or blossom is situated above the seedbud it is said to be superior as in, the *Honey-suckle* ; *Currant* and *Campanula*.

SWORD-SHAPED. As the Leaves of the *Iris* or *Flower de Luce*.

TARGET. A kind of flower in the genus *Cupthong*, that is circular and convex. See *Saucer*.

TENDRIL. A spiral shoot or string, by means of which some plants support themselves against the adjacent bodies. It is well known in the *Vine* and *Pea*. Pl. 10. f. 6. Pl. 8. f. 58.

TERMINATING. (Opposed to lateral) standing at the ends of the stem or branches ; as the fruit-stalks of *Borage*, the *Blossoms* of *Groundel*.

THORN. A sharp pointed projection growing from the woody substance of a plant ; as in *Gorse* and *Blackthorn*. Pl. 10. f. 1.

THREAD. A part of a chive supporting the tip. See *Chive*.

Pl. 3. f. 3 (b.) f. 6. (g.) Pl. 1. f. 10. (a. a.)

THREAD-SHAPED. Of the same thickness from top to bottom, like a piece of packthread. Take for example the leaves of *Fennel*, or the shaft of the *Crocus*, or *Honey-suckle*.

THREE-EDGED. A stem having three corners or angles and the sides not flat.

THREE-CORNERED. Having three corners or angles with flat sides as the stem of the *Pansie*.

TILED. One leaf or scale partly covering another like the tiles on a house. e. g. The cup of *Dandelion* or of *Burdock*. Pl. 2. f. 25. (a.)

TIP. A part of a chive fixed upon the thread, and containing the dust. In *Dogs Mercury* it hath one cell ; in *Hellebore* two ; in *Orchis* three ; in *Fritillary* four ; see *Chive*. Pl. 3. f. 2. (c. c. c. c. c.) f. 5. (b. b. b. b. b.) f. 6. (b.)

TOOTHED. When the edges of a leaf are set with little teeth, not pointing towards the end as in the serrated leaves, nor towards the base as in the inversely serrated leaves. *Common Flybricht* ; *Primrose* ; *Cowslips* ; and *Mountain Willowherb*, have toothed leaves. Pl. 7. f. 30.

TRAILING Stems ; Lying along upon the ground, and not sending out roots. e. g. *Common Speedwell* ; *Red Pimpernel* ; *small Sea Bindweed*.

TREBLY Compound Leaves are of three different kinds,

1. *Double Yewfork* ; the leaf-stalks twice forked and two little leaves at the end of each point ; or three times divided, and three little leaves upon each division. Pl. 8. f. 57.

2. *Triply*

2. *Triply three-fold*; the divisions of a triple leaf-stalk again subdivided into threes, and three little leaves at the end of each subdivision. Pl. 8. f. 59.

3. *Triply winged*; when the lateral ribs of a doubly winged leaf, have themselves other ribs with winged leaves. Pl. 8. f. 60. 61.

TRIANGULAR. Expressing the form of a leaf that hath three sides and three angles, or corners. Pl. 7. f. 12.

TRIANGULARLY Spear-shaped: Leaves in this form are broad at the base and nearly triangular, but spear-shaped at the point. e. g. *Black Poplar*. Pl. 7. f. 45.

TRIPLY WINGED. See *Treble Compound*.

TRIPLY Three-fold. See *Treble Compound*.

TRUNK. The main body of a plant: it is either a *Stem*, a *Stalk*; a *Straw*, or a *Pillar*: see those terms.

TUBE. The lower part of a blossom of one petal is frequently lengthened out into a tube, as in *Crocus* and *Pollanthis*.

TUBERCLE. A little solid pimple.

TUBEROUS Root; consisting of many roundish knobs collected into a bundle, as the root of *Peony* and *Dropswort*. Pl. 11. f. 7.

TUBULAR. In the shape of a hollow tube, as the cup of *Primrose*; the blossom of the *Honeysuckle*, or the honey-cup of the *Helibore*.

— *Florets* in compound flowers, are shaped like a hollow tube, and the top is cloven into five segments. In the *Tansy* all the florets are tubular, but in the *Sunflower* and the *Daisy* only those in the center. Pl. 4. f. 26.

TUFT. A composition of flowers in which a number of fruit-stalks proceeding from one common center rise to the same height; and these again shoot out other little fruit-stalks, which do not proceed from one central point. The *Elder*, the *Gelder Rose*, and the *Laurustinus* are instances. Pl. 6. f. 10.

TURBANSHAPED. Like a Turkish turban; exemplified in the cup of the *Elm*, or *French Wheat*; some *Pears* are in this form.

TWINING. Twisting round other bodies and ascending in a spiral line. Some plants twine from the left to the right (C) in the direction of the sun's apparent motion, as *Hop*, *Honeysuckle* and *Black Briony*. Others twine from the right to the left (D) contrary to the sun's apparent motion, as *Bindweed* and *Scarlet Kidney Bean*. Pl. 10. f. 5.

TWINFORK. See *Doubly compound Leaves*.

TWO EDGED. As the stem of *Tulipan* and the *Sweet-smelling Solomon's Seal*.

VALVE. The different pieces that compose a capsule are called valves. Thus in the *Thornapple* there are four valves. Pl. 5. f. 14. (c. c. c. c.) In the *Loosestrife* ten; in *Jacob's Ladder*, *Daffodil* and *Hyacinth* three. Pl. 5. f. 6. f. 12. (a. a.)

The petals and empalements that constitute the flowers of Grasses are called valves; thus in the *Common Meadow-Grass*, the empalement is a dry chaffy husk, composed of two valves, and the blossom is formed of two other valves. See pl. 2. f. 1. (a. a.) (b. b.) and most

most of the other figures in that plate.

The mouth of the tube of a blossom is frequently closed by several projecting substances; thus in the blossoms of *Borage* and *Jacob's Ladder* the tube is closed by five of these substances; and they are called valves.

VANELIKE. Turning about like a vane or weathercock, as is the case with the tips of *Geranium*, and *Crown Imperial*.

VAULTED. Like the roof of one's mouth. The upper lip of many of the gaping blossoms is vaulted; e. g. red and white *Dead-nettle*.

VEIL. The empalement of mosses, covering the tips. It is generally in a conical form like an extinguisher. Pl. 1. f. D. (a.)

VIVIPAROUS. A term applied to stems or stalks producing bulbs that are capable of vegetation. In *Toothwort* and *Star of Bethlem*, they are found at the base of the leaves; in *small Bisfort*, on the lower part of the spike; in some species of *Garlic* at the origin of the bundle of flowers; and on the spikes of some of the grasses, as the *Cats-tail Canary*.

UMBEL. See **RUNDLE**.

UNARMED. Without weapons of defence. See **WEAPONS**.

UNEQUAL-Florets; when a rundle is not composed of equal florets, but those in the circumference are larger than those in the center; and the outer petals are larger and different in shape from the inner petals. As in the *Carrot* and *Compass-junc*.

UNIFORM. A term applied to compound flowers when the florets that compose them are all

alike; as those of *Fennel*, *Lettuce*, and *Purlock*.

UPRIGHT. Standing upright, as the cups of *Periwinkle*; the tips of *Polyambus*; the stalks of *Tulips*; the stems of *Sparagus*. It is also applied to leaves. Pl. 9. f. 5. (b. b.)

WARTY. Having little hard lumps or warts upon the surface.

WAVED. When the surface of a leaf towards the edge does not lie flat, but appears waved, and full, like a man's ruffle. The leaf of the *Water Caltrop* is an example. Pl. 8. f. 56.

WEAPONS are either *Prickles*, *Thorns* or *Stings*. See those terms.

WEDGE-SHAPED. As the leaves of the *Garden Spurge*; and the *Garden Purslain*. Pl. 8. f. 65.

WHEELSHAPED. A term used to express a blossom of one petal, with a flat border and a very short tube. *Borage* and *Speedwell* are familiar examples. Pl. 4. f. 6.

WHORLS of branches, leaves, or flowers. The branches of the *Fir*, the leaves of *Ladies Bedstraw*, and the flowers of the red and white *Deadnettle* grow in whorls round their respective stems. They somewhat resemble the spokes round the nave of a wheel. pl. 6. f. 11.

WINGS. The lateral petals of a butterfly-shaped blossom; e. g. in the *Pea*. See the Introduction to the seventeenth Class. See also pl. 4. f. 13. (c. c.) and f. 16.

WINGED-Leaves; when an undivided leaf stalk hath many little leaves growing from each side; as in *Jacob's Ladder*; *Bladder Saxa*; *Alb* and *Pra*. Pl. 8. f. 52, 53, 54, &c.

WINGED-Clefts; applied to a leaf that is cut and divided so deeply on each side, down towards the midline

middle rib, as almost to resemble a winged leaf. The *Corn Poppy* and the *Polypody* are examples; and so are the root-leaves of the *Shepherd's Purse*.

WINGED-Leaf-salk; one that is not cylindrical, but flattish, with a thin leafy border at each edge.

WINGED-Shoots. When the shoots strike out from the sides, like the plumage along the sides of a quill. Instances will be found in several species of the *Feathermoss*.

WIRES. Barren-twigs or shoots lying upon the ground, as in the *Garden Strawberry* and *Stone Bramble*.

WOODY. Opposed to herbaceous. The stems of the *Wall-flower* or *Gilliflower* are woody.

WOOL. A kind of downy cloathing upon the surface of some plants. The leaves of *Horeboud*,

Great Mullin and *Gorze* are woolly.

WRINKLED. As are the leaves of *Sage*, *Primrose*, *Wood Strawberry* and *Hazel*.

ZIGZAG. Having many turnings and bendings, as the stems of *Rough Bindweed*, and *Woody Nightshade*; or the branches of *Golden Rod*.

T H E

LATIN TERMS of LINNÆUS;

With the corresponding *English* Words.

ABBREVIATUM, *short*.
 Abortiens, *abortive*.
 Abortivi (flosculi) *barren*.
 Abruptum, *abrupt*. Pl. 8. f. 53.
 Acaulis, *stem-less*.
 Acerosum, *chaffy*. Pl. 9. f. 3. (c.)
 Acicularis, *Needle shaped*.
 Acinaciformis, *Scymeter shaped*.
 Acini, *Granulations*.
 Acotyledones, *Seeds without Lobes*.
 Aculei, *Prickles*. Pl. 10. f. 2.
 Aculeata, *prickly*.
 Acuminatus, *taper*.
 Acuminatum (fol.) *tapering to a Point*. Pl. 7. f. 41.
 Acutus, *sharp*. Pl. 7. f. 40.
 Adnatum, *connected*.
 Adpressa, *contiguous*. Pl. 9. f. 6.
 Ascendens, *ascending*.
 Adversum, *turned towards the South*.
 Æqualis, *equal*.
 Aggregatus, *incorporated*.

Ala, *wing*. Pl. 4. f. 16.
 Alatus, *winged*.
 Alburnum, *a soft white substance betwixt the inner bark and the wood*.
 Algæ, *Thongs*.
 Alternus, *alternate*. Pl. 9. fig. 3. (d. d. d. d.)
 Amentum, *Catkins*.
 Amplexicaule, *embracing the Stem*. Pl. 9. f. 4. (f.)
 Anceps, *Two-edged*.
 Androgynia, *Chives and Pointals separate*. Pl. 1. f. 21.
 Angulatus, *angular*.
 Angustifolia, *narrow-leaved*.
 Angiospermia, *covered Seeds*.
 Annuus, *annual*.
 Anomala, *without Order*.
 Anthera, *Tip*. Pl. 3. f. 2. 3. 5. 6.
 Apetalus, *without Petals*.

Apex,

- Apex, *Point*.
 Apophysis, *Excrescence*.
 Appendicularius, *with an Appendage*.
 Approximata, *near together*.
 Arborea, *Woody*.
 Arcuatum, *bowd*.
 Arillus, *see Caliculus*.
 Arista, *Awn*. Pl. 2. f. 21. (b. b.)
 23. (b. b.)
 Arma, *Weapons*. Pl. 10.
 Articulatum, *jointed*. Pl. 10. f. 2.
 Pl. 9. f. 3. (a)
 Asperifolia, *rough-leaved*.
 Asurgentia, *rising*.
 Attenuata, *tapering*.
 Auctus, *leafy*.
 Auriculatum, *Ear-shaped*.
 Avenis, *without Veins*.
 Axillare, *at the base of the Leaves*.
 Pl. 9. f. 5. (m.)
 Bacca, *berry*. Pl. 5. f. 19.
 Barba, *Beard*.
 Barbata, *bearded*.
 Bicapsularis, *two Capsules*. Pl. 1.
 f. 8.
 Biennis, *biennial*.
 Bifarius, *opposite*.
 Bifida, *Cleft or cloven*.
 Biflorus, *two flowered*.
 Bigeminum, *twinfork*.
 Bijugum, *two Couple*.
 Bilabiatus, *Two lipped*. Pl. 4. f.
 8. 9. 10.
 Bilobum, *two lobes*.
 Binata, *in Pairs*. Pl. 7. f. 50.
 Bilocularis, *two Cells*. Pl. 5. f. 12.
 Bipartita, *two Divisions*.
 Bipinnatum, *doubly winged*.
 Biternatum, *doubly threefold*. Pl. 8.
 f. 57.
 Bivalve, *two Valves*. Pl. 5. f. 9.
 16.
 Brachiatus, *see Decussatus*.
 Bractea, *floral Leaf*. Pl. 9. f. 8.
 Bulbosa, *bulbous*. Pl. 11. f. 2. 3. 4.
 Bulbos, *Bulb*.
 Bullata, *blistered*.
 Caduca, *shedding*.
 Cæspitosus, *matted together*.
 Calcariatum, *having a Spur*. Pl. 5.
 f. 4. (a.)
 Caliculatum, *Cup double*.
 Caliculus, *Seed-coat*. Pl. 6. f. 1.
 (c. c.)
 Calyptra, *Veil*. Pl. 1. f. D. (a.)
 Calyx, *Empalement*. Pl. 4. f. 7.
 (c.) f. 20. Pl. 3. f. 10. f. 5. (a.)
 Campanulata, *Bell-shaped*. Pl. 4.
 f. 2. 3. 4.
 Canaliculata, *channelled*.
 Capillaris, *hair-like*.
 Capitatus, *growing in Heads*.
 Capitulum, *Knob*.
 Capitulus, *flowering Head*.
 Capreolus, *see Cirrhus*.
 Capsula, *Capsule*. Pl. 5. f. 6. 9.
 14.
 Carina, *Keel*. Pl. 4. f. 7.
 Carinatum, *Keel-shaped*. Pl. 5. f.
 13.
 Carnosa, *fleshy*. Pl. 5. f. 20.
 Cartilaginea, *gristly*.
 Catenulata, *chained*.
 Catulus, *see Amentum*.
 Cauda, *Tail*.
 Caudex, *Body*.
 Caulescens, *having a Stem*.
 Caulinum, *belonging to the Stem*.
 Caulis, *Stem*.
 Cernuus, *crooked, when applied to*
Fruit-stalks.
 Ciliatus, *fringed*.
 Cingens, *binding round*.
 Circumcissa, *cut round*. Pl. 5. f. 9.
 Cirrho'um sol. *terminating in a Tendril*.
 Cirrhus, *Tendril*. Pl. 10. f. 6.
 Classis, *Class*.
 Clausa, *closed*.
 Clavata, *Club-shaped*.
 Clavicula, *see Cirrhus*.
 Coadunatum, *joined*.
 Coactata, *compact*.

Cochlearium,

Cochleatum, *Snail-shell*.
 Colorata, *coloured*.
 Columnella, *Column*. Pl. 5. f. 14. (d)
 Columbaris, *square Pillars*.
 Coma, *Bush*.
 Communis, *common*.
 Compactum, *firm*.
 Completum, *perfect*.
 Compositus, *compound*.
 Compressa, *compressed*.
 Concava, *concave*.
 Conduplicata, *doubled together*.
 Confertus, *crowded*.
 Confluentia, *thronging*.
 Congesta, *collected into a ball*.
 Conglomerata, *close*.
 Conica, *conical*.
 Connatum, *Twin-leaves*. Pl. 9. f. 4. (b. b.)
 Connivens, *approaching*.
 Connivens calyx, *closing*.
 Contraria, *contrary*.
 Convexa, *convex*.
 Convolutus, *from left to right*.
 Corculum, *Heart*. Pl. 6. i. 3. (b)
 Cordata, *Heart-shaped*. Pl. 7. f. 10.
 Cornutum, *Horn-shaped*. Pl. 5. f. 3. (a. a.) Pl. 7. f. 4. (a.)
 Coralla, *Blossom*. Pl. 4.
 Corona, *Crown*. Pl. 4. f. 27. (b) Pl. 5. f. 5. (a. b.)
 Cortex, *Park*.
 Corymbus, *broad topped Spike*. Pl. 6. f. 7.
 Cotyledones, *Seed-lobes*. Pl. 6. f. 3. (a. a.)
 Crenatus, *scalloped*. Pl. 7. f. 34. 35.
 Crispa, *curled*. Pl. 8. f. 67.
 Cristatus, *crested*.
 Cruciata, *Cross-shaped*. Pl. 4. f. 11. 12.
 Cryptogamia, *Flowers inconspicuous*. Pl. 1. A. B. C. D. E. F. G. H.
 Cucullata, *hooded*.
 Culmus, *Stem*. Pl. 10. f. 2.
 Cuneiformis, *Wedge-shaped*. Pl. 8. f. 65.

Cuspidatus, *Spit-pointed*.
 Cyathiformis, *Glass-shaped*.
 Cylindricus, *cylindrical* Pl. 8. f. 65.
 Cyma, *Tuft*. Pl. 6. f. 10.
 Dædaleum, *beautiful Texture*.
 Debilis, *feeble*.
 Decagynia, *ten Pointals*.
 Decandria, *ten Chives*. Pl. 1. f. 10.
 Decaphyllus, *ten leaved*.
 Decidua, *deciduous*.
 Declinata, *declining*.
 Decompositus, *doubly compound*. Pl. 8. f. 56. 57.
 Decumbens, *drooping*.
 Decurrens, *running along the Stem*. Pl. 9. f. 4. (c.)
 Decursivus, *running along the Leaf-stalk*.
 Decussatus, *cross Pairs*. Pl. 9. f. 1.
 Deilexus, *a little bent outwards*.
 Destorata, *having discharged*.
 Deltoidea, *triangularly Spear-shaped*. Pl. 7. f. 45.
 Demersum, *see Submersum*.
 Dendroidis, *shrubby*.
 Dentato-sinuatum, *toothed and indented*. Pl. 7. f. 26.
 Dentatus, *toothed*. Pl. 7. f. 30.
 Denticulatum, *little Teeth*.
 Dependens, *hanging down*.
 Depressa, *depressed*.
 Diadelpbia, *Threads in two Sets*. Pl. 1. f. 17. (a. b.)
 Diandria, *two Chives*. Pl. 1. f. 9.
 Dichotoma, *forked*. Pl. 10. f. 4.
 Didyma, *double*. Pl. 2. t. 6. (b.)
 Didynamia, *two Chives longer*, pl. 1. f. 14. (a. a.)
 Difformia, *irregular and uncertain shaped*.
 Diffusa, *spreading*.
 Digitatum, *fingered*. Pl. 7. f. 48.
 Digynia, *two Pointals*.
 Dimidiatum, *going half way round*.
 Dioecia, *Chives and Pointals distinct*. Pl. 1. f. 22.
 Diphylus, *two-leaved*.
 Discus, *Center*.

Diffidum,

- Dissectum, *see* Laciniatum.
 Disperma *two seeds*.
 Dissepimentum, *Partition*. Pl. 5.
 f. 12. (b. b.) f. 14. (b. b. b. b.)
 Diffiliens, *bursting*.
 Distans, *distant*.
 Disticha, *pointing from two opposite*
 lines.
 Divaricata, *straddling*.
 Divergens, *diverging*.
 Dodecandria, *twelve Chives*. Pl.
 1. f. 11.
 Dolabriformis, *battledore-shaped*.
 Dorsalis, *fixed to the Back*.
 Drupa, *pulpy Seed-vessel*. Pl. 5. f.
 21.
 Duplicata, *doubly*.
 Echinatum, *beset with Prickles*.
 Elliptica, *see* Ovale.
 Emarginatus, *notched at the End*.
 pl. 7. f. 16. 36.
 Enervis, *without Strings*.
 Enneandria, *nine Chives*, pl. 1.
 f. 9.
 Enodis, *without Joints*.
 Ensisformis, *Sword-shaped*.
 Equitans, *laminated*.
 Erecta, *upright*.
 Erosum, *gnawed*, pl. 7. f. 21.
 Exserta, *standing out*. pl. 2. f. 18.
 (c. c. c.)
 Extrafoliacea, *beneath the Leaves*.
 Farctum, *full*.
 Fascicularis, } *bundled*, pl. 9. f. 3.
 Fasciculatus, } (f.)
 Fasciculus, *a bundle*.
 Fastigiatus, *level*.
 Faux, *Mouth*, pl. 4. f. 9. (d. d.)
 Feminus Flos. *fertile Flower*, pl.
 1. f. 21. (b.) 22. (b.) 23. (c.)
 Fertile, *fertile*.
 Fibrosa, *fibrous*.
 Filamentum, *Thread*, pl. 3. f. 6.
 (g-)
 Filices, *Ferns*, pl. 1. A. B.
 Filiformis, *Thread-shaped*.
 Fimbriata, *tattered*.
 Fissum, *clown*.
 Fistulosa, *hollow*.
 Flaccidi, *limber*.
 Flagellis, *Wires*.
 Flexuosa, *zigzag*.
 Floreæ, *floral Leaf*, pl. 5. f. 8.
 (a. a.)
 Flos, *Flower*.
 Flocculus, *Floret*, pl. 4. f. 21.
 f. 26.
 Flocculosi, *tubular Florets*, pl. 4.
 f. 26.
 Foliatus, *covered with Leaves*.
 Foliaceum, *leafy*.
 Folium, *Leaf*.
 Folliculus, *Airbag*.
 Fornicatum, *vaulted*, pl. 4. f. 8.
 (a)
 Fruticosus, *woody*.
 Fructificatio, *Flower*.
 Fructus, *Fruit*.
 Fulcra, *Supporters*.
 Fungi, *Fungusses*, pl. 1. H.
 Furca, *Fork*.
 Furcata, *forked*.
 Fusiformis, *spindle-shaped*. pl. 11.
 f. 6.
 Galea, *Helmet*.
 Geminis, *in Pairs*. pl. 7. f. 30.
 Gemma, *Bud*.
 Genus, } *see the Introduction*.
 Genera, }
 Geniculatus, *Knee-jointed*. pl. 2.
 f. 21. *the Awns*.
 Geniculum, *Knee-joint*.
 Germen, *Seed-bud*. pl. 3. f. 2. (d)
 f. 7. (i)
 Gibba, *bunched*. pl. 4. f. 12. (b.)
 Glabra, *smooth*.
 Glandula, *Gland*. pl. 10. f. 6.
 (c. c.) pl. 11. f. 1. (a. a. a. a.)
 Globosa, *globular*. pl. 5. f. 5.
 Glochis, *Hook with many Points*.
 Glomerata, *congregated*.
 Gluma, *Husk*, pl. 2. f. 1. (a. a.) f.
 18. (a. a.)
 Glutinositas, *gummy*.
 Gramina, *Grasses*.
 Granulata, *beaded*.
 Gymnospermia, *Seeds naked*.
 Gynandria,

- Gynandria, *Chives on the Pointal.* pl. 1. f. 20.
 Hamus, *Hook.*
 Hastata, *Halberd-shaped.* pl. 7. f. 15.
 Hemisphericus, *hemispherical.*
 Heptandria, *seven Chives.* pl. 1. f. 7.
 Herbacea, *herbaceous.*
 Herinaphroditus, *Flowers containing both Chives and Pointals.*
 Hexagonus, *fix-sided.*
 Hexagynia, *fix Pointals.*
 Hexandria, *fix Chives.* pl. 1. f. 6.
 Hians, *gaping.* pl. 4. f. 8, 9.
 Hilum, *Eye.* pl. 6. f. 3. (c)
 Hirsutus, *rough with Hair.*
 Hispidus, *covered with strong Hair.*
 Horizontalis, *horizontal.* pl. 9. f. 5. (d. d.)
 Hypocrateriformis, *Salver shaped,* pl. 4. f. 1.
 Icofandria, *twenty Chives.* pl. 1. f. 12.
 Imbricata, *tiled,* pl. 9. f. 2.
 Inanis, *pithy.*
 Incanum. *See Tomentosum.*
 Incisum. *See Laciniatum.*
 Inclinator, *leaning.*
 Inclusa, *inclosed.*
 Incompleti, *imperfect.*
 Incrassatus, *thicker towards the top.*
 Incumbentes, *fixed Side-ways.*
 Incurvata, *bowed inwards.* pl. 9. f. 5. (a. a.)
 Inermis, *unarmed.*
 Inferus, *beneath.*
 Inflata, *bladder-shaped.*
 Inflexa, *bent inwards.*
 Inflorescentia, *Mode of flowering.*
 Infundibuliformis, *funnel-shaped,* pl. 4. f. 7.
 Integer, *entire.*
 Integerrimus, *very entire.*
 Interrupta, *interrupted,* pl. 8. f. 55.
 Intrafoliacea, *upon the Leaves.*
 Involucellum, *partial Fence.* pl. 6. f. 9. (d. d. d. d.)
 Involucrum, *Fence.* pl. 6. f. 9. (c. c.)
 Involata, *rolled inward.*
 Irregularis, *irregular.*
 Labiatus, *with Lips.*
 Labium, *Lip.* pl. 4. f. 8. 9. (a. a.) (b. b.) f. 10. (a. b.)
 Lacerus, *ragged.*
 Lacinia, *Segments.*
 Laciniatus, *jagged.* pl. 17. f. 24.
 Lactescens, *milky Juices.*
 Lacunosa, *pitted.*
 Lævis, *even.*
 Lamella, *Gills.*
 Lamina, *Limb.* pl. 4. f. 12. (b. b. b. b.) f. 12. (a. a. a. a.)
 Lana, *Wool.*
 Lanata, *Cobwebbed.*
 Lanceolata, *Spear-shaped,* pl. 7. f. 6.
 Laterales, *lateral.*
 Laxus, *flexible.*
 Legumen, *Shell.* pl. 5. f. 16.
 Leprosus, *spotted like a Leper.*
 Liber, *the inner Bark.*
 Ligulatus, *narrow.*
 Limbus, *Border.* pl. 4. f. 1. (b. b.)
 Linearis, *Strap-shaped.* pl. 7. f. 7. pl. 4. f. 21.
 Lineata, *streaked.*
 Lingulata, *Tongue-shaped.*
 Lobata, *gashed.* pl. 7. f. 19.
 Lobum, *Lobe.* pl. 7. f. 17.
 Loculamentum, *Cell.* pl. 3. f. 4.
 Longum, *long.*
 Lucida, *transparent.*
 Lunata, *Crescent-shaped* pl. 7. f. 11.
 Lyrata, *Lyre-shaped,* pl. 8. f. 62.
 Magnitudo, *size.*
 Marcescens, *shrivelling.*
 Marginatum, *bordered.*
 Maseulus, *barren,* pl. 1. f. 21. (a) 22 (a) 23.
 Membranacea, *membranaceous*
 Monadelphia, *Threads united,* pl. 1. f. 16.
 Monandria, *one Chive,* pl. 1. f. 1.
 Monoecia, *Chives and Pointals separate,* pl. 1. f. 21.
 Monogynia,

- Monogynia, *one Pointal*, pl. 1. f.
 1. (c) f. 2. (a)
 Monopetala, *one Petal*, pl. 4. f. 1,
 2, 3, 4.
 Monophyllum, *one leaf*.
 Mucronatum, *sharp-pointed*.
 Multifidum, *many Clefts*.
 Multiflori, *many Flowers*.
 Multipartitum, *deeply divided into*
 many parts.
 Muricata, *covered with sharp points*.
 Musci, *Mosses*, pl. 1. f. C. D.
 Mutica, *without Arms*.
 Natans, *floating*.
 Navicularis, *boat-shaped*, pl. 5. f.
 13, (a, a)
 Nectarium, *Honey-cup*, pl. 3. f. 3.
 (k) pl. 5, f. 1, (a) f. 2, 3, 4.
 Nervosa, *stringy*, pl. 8, f. 46.
 Nidulantia, *disperfed in Pulp*.
 Nitida, *shining*.
 Nuda, *naked*.
 Nutans, *nodding*.
 Nux, *Nut*, pl. 5, f. 21. (b, b)
 Obcordatum, *inversely heart shaped*,
 pl. 8, f. 69
 Obliqua, *oblique*.
 Oblonga, *oblong*, pl. 7. f. 5
 Obsolete, *indistinctly*.
 Obtusus, *blunt*.
 Octandria, *eight Chives*, pl. 1, f. 8
 Operculum, *lid*, pl. 1, f. D, (b)
 Operculatum, *covered with a lid*.
 Oppositifolia, *opposite the leaves*.
 Oppositus, *opposite in Pairs*, pl. 9,
 f. 1.
 Orbiculata, *round and flat*, pl. 7.
 f. 1.
 Ore Perianthii, *Rim of the Cup*.
 Ossea, *hard as bone*.
 Ovale, *oval*, pl. 7. f. 4.
 Ovata, *Egg-shaped*, pl. 7, f. 3.
 Pagina, *Surface*.
 Palatum, *Palate*, pl. 4, f. 10, (c)
 Palea, *Chaff*.
 Paleacea, *chaffy*.
 Palmata, *hand-shaped*, pl. -, f. 22
 Panduriformis, *Fiddle-shaped*
 Panicula, *Panicle*, pl. 6. f. 50.
 Paniculatus, *panicled*.
 Papilionacea, *Butterfly-shaped*, pl.
 4. f. 13. f. 14
 Papillofa, *pimpled*.
 Pappus, *Feather*, pl. 4. f. 22. (l)
 pl. 6. f. 2. (a, b)
 Parallelum, *parallel*.
 Parasiticus, *parasitical*.
 Partialis, *partial*.
 Partita, *divided*, pl. 7. f. 28.
 Patens, *expanding*, pl. 9. f. 5.
 (c, c)
 Patulus, *open*.
 Pedatum, *Birdsfoot*, pl. 7. f. 49.
 Pedicellus, *little Fruit-stalk*, pl. 6.
 f. 7. (a, a, a, a, a, a)
 Peduncularis, *belonging to a Fruit-*
 stalk.
 Pedunculati, *growing on Fruit-*
 stalks.
 Pedunculus, *Fruitstalk*, pl. 9. f.
 8. (c) f. 5. (m.)
 Peltatis, *Leaves with Leaf-stalks*
 fixed in the Center, pl. 9. f. 4.
 (a)
 Peltatum, *Target-shaped*.
 Pencilliformis, *Pencil-shaped*, pl. 2.
 f. 11. (c, c)
 Pendula, *pendant*.
 Pentagonus, *five-sided*.
 Pentagynia, *five Pointals*, pl. 1,
 f. 22. (b)
 Pentandria, *five Chives*, pl. 1. f. 5.
 Pentapetala, *five Petals*, pl. 4. f.
 6. pl. 5. f. 2.
 Pentaphyillus, *five-leaved*.
 Perennis, *perennial*.
 Perfoliatum, *perforated*, pl. 9. f.
 60. (g.)
 Perianthium, *Cup*, pl. 3. f. 1. f.
 10. f. 5. (a) pl. 4. f. 12.
 (b) f. 14, (a) f. 18, (a)
 Pericarpium, *Seed vessel*, pl. 5,
 from f. 5 to f. 21.
 Perichæium, *Receptacle of Mosses*.
 Persistens, *permanent*.
 Personæ.

F

VOL. II.

- Personata, *gaping*, pl. 4, f. 8, 9, 10.
 Petalum, *Petal*, pl. 4, f. 18,
 (*b, b, b, b*)
 Petaliformia, *resembling Petals*.
 Petiolaris, *fixed to the Leaf-stalk*.
 Petolaris, *fixed to the Leaf-stalk*.
 Petiolatu, *with Leaf-stalks*.
 Petiolus, *Leaf-stalk*, pl. 9, f. 4, (*c*)
 Pileus, *Hat*, pl. 1, f. H. (*c*)
 Pili, *Hair*.
 Pilosa, *hairy*.
 Pinnatifidum, *with winged Clefts*,
 pl. 7, f. 23.
 Pinnatum, *winged*, pl. 8, f. 52.
 f. 53, f. 54.
 Pistillum, *Pistil*, pl. 3, f. 7, f. 2,
 (*d, e, f*)
 Plana, *flat*.
 Plenus flos, *double Blossom*.
 Plicata, *pleated*, pl. 7, f. 37.
 Plumata, *plumed*.
 Plumosus, *downy*, pl. 4, f. 22, (*D*)
 Plumula, *the ascending part of the*
 Heart, pl. 6, f. 3, (*d*)
 Pollen, *Dust*, pl. 3, f. 5, (*f*) f.
 8, (*a*)
 Polyadelphia, *Threads in many Sets*
 pl. 1, f. 18.
 Polyandria, *many Chives*.
 Polygamia, *various dispositions*, pl.
 1, f. 23.
 Polyginia, *many Pointals*.
 Polyphyllum, *many leaved*.
 Polytachius, *many Spikes*.
 Pomum, *Apple*, pl. 5, f. 20.
 Pori, *Pores*, pl. 3, f. 3, (*k*)
 Posticus, *hinder part*.
 Præmorsus, *bitten*, pl. 7, f. 18.
 Prismaticus, *Prism-shaped*.
 Procumbens, *trailing*.
 Proliifer, *beaded Stem*.
 Proliferi flores, *one growing out of*
 another.
 Prominulum, *prominent*.
 Propago, *off-set*.
 Proprium, *Individual Blossom*, pl.
 4, f. 21, f. 25.
 Pubes, *Cloathing*.
 Pulpota, *pulpy*, pl. 5, f. 21
 Pulveratum, *dusted*.
 Punctata, *dotted*, pl. 4, f. 23, (*a*)
 Racemus, *Bunch*, pl. 6, f. 8.
 Rachis, *Spike-stalk*, pl. 2, f. 25,
 f. 24.
 Radiata, *radiate*, pl. 4, f. 24.
 Radicalia, *Root-leaves*, pl. 9, f. 7.
 Radicans, *striking Root*, pl. 10, f. 7.
 Radius, *Circumference*.
 Radii, *Spokes*, pl. 6, f. 9. (*c, c, c, c*)
 Rameum, *Branch Leaf*.
 Ramosissimus, *greatly branched*.
 Ramosus, *branching*.
 Ramus, *branch*.
 Rameum, *growing on the branches*.
 Receptaculum, *Receptacle*, pl. 4,
 f. 11, (*c*) f. 23. (*a*)
 Reclinatum, *curved*, pl. 9, f. 5,
 (*c, c*)
 Recurvatum, *bent backwards*.
 Recta, *straight*.
 Reflexa, *reflected*, pl. 4, f. 5.
 Regularis, *regular*.
 Remotus, *remote*.
 Reniformis, *Kidney-shaped*, pl. 7,
 f. 9.
 Repandus, *serpentine*, pl. 7, 29.
 Repens, *creeping*, pl. 10, f. 7, f. 8.
 Resupinatus, *lying on its back*.
 Retrorsum sinuatum, *barbed*, pl.
 7, f. 27.
 Retrorsum serratum, *inversely sex-*
 rated.
 Retrofractus, *bent back as if broken*.
 Retusus, *dented*.
 Revoluta, *rolled back*.
 Rhombea, *Diamond shaped*.
 Rigidus, *inflexible*.
 Rimosus, *abounding with Chinks*.
 Ringens, *gaping*, pl. 4, f. 8, f. 9,
 f. 10.
 Rostellatum, *the descending part of*
 the heart, pl. 6, f. 3. (*c*)
 Rostrum, *Bill*, pl. 5, f. 15. (*a*)
 Rotata, *Wheel-shaped*, pl. 4, f. 6.
 Rugosa, *wrinkled*.
 Runcinata, *notched*.
 Sagittata, *Arrow-shaped*, pl. 7, f. 13.
 Sariuen-

- Sarmentosus, *Runners*.
 Scabra, *rough*.
 Scandens, *climbing*.
 Scapus, *Stalk*, pl. 6. f. 4.
 Scariofa, *Skinny*.
 Scrotiforme, *Purse-shaped*.
 Scutellum, *a Saucer*, pl. 1. f. F.
 Scyphifer, *cup-bearing*, pl. 1. f. E.
 Secunda, *pointing one way*.
 Securiformis, *Hatchet-shaped*.
 Semen. *Seed*.
 Semiteres, *half cylindrical*.
 Sempervirens, *evergreen*.
 Senis, *by fixes*.
 Sericea, *silky*.
 Serratus, *serrated*, pl. 7. f. 31.
 Sessilibus, *sitting*, pl. 9. f. 4. (d.)
 Setacea, *bristly*.
 Setæ, *Bristles*.
 Silicula, *Pouch*, pl. 5. f. 10. f. 11.
 Siliqua, *Pod*, pl. 5. f. 17.
 Simplex, *simple*.
 Simplicissimus, *undivided*.
 Sinuata, *indented*, pl. 7. f. 25.
 Solida, *solid*.
 Solitarius, *solitary*.
 Spadix, *sheathed Fruit-stalk*, pl. 3.
 f. 9. (d.)
 Sparfus, *scattered*.
 Spatha, *Sheath*, pl. 3. f. 9. (a. a.)
 Spathulata, *Spatula-shaped*, pl. 8.
 f. 64.
 Spica, *Spike*, pl. 6. f. 5.
 Spicula, *a little Spike*, pl. 6. f. 5.
 (a. b. c. d.)
 Spina, *Thorn*, pl. 10. f. 1.
 Spinescens, *thorny*.
 Spinosa, *thorny*.
 Spiralis, *spiral*.
 Squamata, *scaly*, pl. 4. f. 20. f.
 25. pl. 11. f. 4.
 Squamosus, *scaly*.
 Squarrosus, *scurfy*.
 Stamina, *Chives*, pl. 3. f. 2. (c. b.)
 f. 6. (g. b.) f. 3. (b. i.)
 Stamineus flos. *barren Flower*, pl.
 1. f. 21. (a.) f. 22. (a.) f. 23.
 (a.)
 Stellata *starry*, pl. 9. f. 5. (b. b.)
- Sterilis, *barren*.
 Stigma, *Summit*, pl. 3. f. 2. (f.)
 f. 5. (c.) f. 7. (l.)
 Stimuli, *Sting*.
 Stipes, *Pillar*, pl. 1. f. H. (b.)
 pl. 6. f. 22. (i.)
 Stipitatus, *standing on a Pillar*.
 Stipua, *Prop*, pl. 10. f. 6. (b. b.)
 Stoloniferus, *with Suckers*.
 Striatus, *scored*.
 Strictus, *stiff and straight*.
 Strigosa, *strong Lance shaped Bristles*
 Strobilus, *Cone*, pl. 5. f. 18.
 Stylus, *Shaft*, pl. 3. f. 2. (e.) f. 5.
 (d.) f. 7. (k.)
 Subdivisus, *subdivided*.
 Submersum, *growing beneath the
 Surface of the Water*.
 Subramosus, *a little branched*.
 Subrotundum, *circular*, pl. 7. f. 2.
 Subulatum, *Axel-shaped*, pl. 7. f. 8.
 Suffruticosus, *somewhat woody*.
 Sulcata, *furrowed*.
 Superflua, *superfluous*.
 Superum, *superior*.
 Supradecomposita, *more than doubly
 compound*, pl. 8. f. 57 to 61.
 Sutura, *Scam*.
 Syngenesia, *Tips united*, pl. 1. f.
 19, pl. 4. f. 21.
 Teres, *cylindrical*, pl. 8. f. 60.
 Tergeminum, *double Twinfork*, pl.
 8. f. 57.
 Terminalis, *terminating*.
 Ternatum, *threefold*, pl. 7. f. 51.
 Ternis, *growing by threes*, pl. 7. f.
 47.
 Tetradyndamia, *four Chives longer*.
 pl. 1. f. 15.
 Tetragonus, *four edged*.
 Tetragynia, *four Pointals*.
 Tetrandria, *four Chives*, pl. 1. f. 4.
 Thyrsus, *Cluster*.
 Tomentosum, *downy*.
 Tomentum, *Down*.
 Torosum, *protuberating*.
 Tortilis, *twisted*.
 Transversum, *transverse*.

- Trapeziformis, *irregular square*.
 Triandria, *three Chives*, pl. 1. f. 3.
 Triangularis, *triangular*, pl. 7. f. 12.
 Tricocca, *three Seeds in three Cells*.
 Tricuspidata, *three pointed*.
 Trigona, *three edged*.
 Trigynia, *three Pointals*, pl. 1. f. 23. (c.)
 Trinervata, *three fibred*.
 Trinervis, *with three Fibres*.
 Tripartitum, *with three Divisions*.
 Tripinnatum, *triply winged*, pl. 8. f. 60. 61.
 Triplinervis, *triple Fibres*.
 Triquetra, *three cornered*.
 Triernatum, *triply three-fold*, pl. 8. f. 59.
 Truncatus, *lopped*, pl. 8. f. 63.
 Truncus, *Trunk*.
 Tuberculus, *Tubercle*.
 Tuberosa, *tuberous*.
 Tubulosa, *tubular*, pl. 4. f. 26.
 Tubus, *Tube*, pl. 4. f. 1. (a.) f. 7. (a.)
 Tunicata, *coated*.
 Turbata, *Turban-shaped*.
 Turgidum, *swollen*.
 Umbella, *Rundle*, pl. 6. f. 9.
 Umbellula, *Rundlet*, pl. 6. f. 9. (b. b. b.)
 Umbilicatum, *dimpled*.
 Uncinatum, *hooked*, pl. 4. f. 25. (b.)
 Undata, *waved*, pl. 8. f. 66.
 Unguis, *Claw*, pl. 4. f. 11. (a. a.)
 Unicus, *single*.
 Uniflora, *having but one Flower*.
 Unilateralis, *growing only from one Side*.
 Universale, *general*.
 Urens, *stinging*.
 Utriculus, *Bag*.
 Vaginans, *sheathing*, pl. 9. f. 4. (i.)
 Valvula, *Valve*, pl. 5. f. 6. (a. a. a.) f. 12. (a. a.) f. 13. (a. a.) f. 16. (a. b.)
 Venosæ, *full of Veins*, pl. 7. f. 44.
 Ventricosa, *dilated*, pl. 4. f. 4.
 Verrucosa, *warty*.
 Versatilis, *vanelike*.
 Verticillatus, *whorled*.
 Verticilli, *Whorls*, pl. 6. f. 17. (a. a. a.)
 Vexillum, *Standard*, pl. 4. f. 15. f. 13. (b.) f. 14. (b.)
 Villi, *soft Hairs*.
 Villofa, *woolly*.
 Virgatus, *Rod-shaped*.
 Viscida, *clammy*.
 Viscositas, *Clamminess*.
 Vivipara, *viviparous*.
 Volubilis, *twining*, pl. 10. f. 5.
 Volva, *Cap*, pl. 1. f. H. (c.)

A N

Explanation of the Plates.

P L A T E III.

P A R T S composing a F L O W E R.

FIG. 1. A back view of a ROSE to shew the *Empalement*, or *flower Cup*. *a. a. a. a. a.* the Segments of the Cup.

FIG. 2. A figure of the CROWN IMPERIAL, to shew
a. a. a. a. a. a. the Petals.
b. b. b. b. b. b. the Chives.
c. c. c. c. c. c. The Tips.
d. the Seed-bud.
e. the Shaft.
f. the Summit.

FIG. 3. *g.* a Petal of the CROWN IMPERIAL separated from the Flower.
h. i. A Chive. *h.* the Thread. *i.* the Tip.
k. A Honey-cup Pore.

FIG. 4. The Seed-vessel of the CROWN IMPERIAL cut a-crofs, to shew the three Cells. During the existence of the Blossom this was called the Seed-bud.

F 3

FIG.

FIG. 5. A Flower with the Empalement, the Chives, and the Pointal; but the *Petals* taken away.

a. The Empalement, or Cup.

b. b. b. b. b. The Tips of the Chives.

c. The Seed-bud.

d. The Shaft.

e. The Summit.

f. One of the Tips discharging its dust.

FIG. 6. *g. h.* A Chive taken out of a flower.

g. The Thread. *h.* The Tip, which in this instance is double.

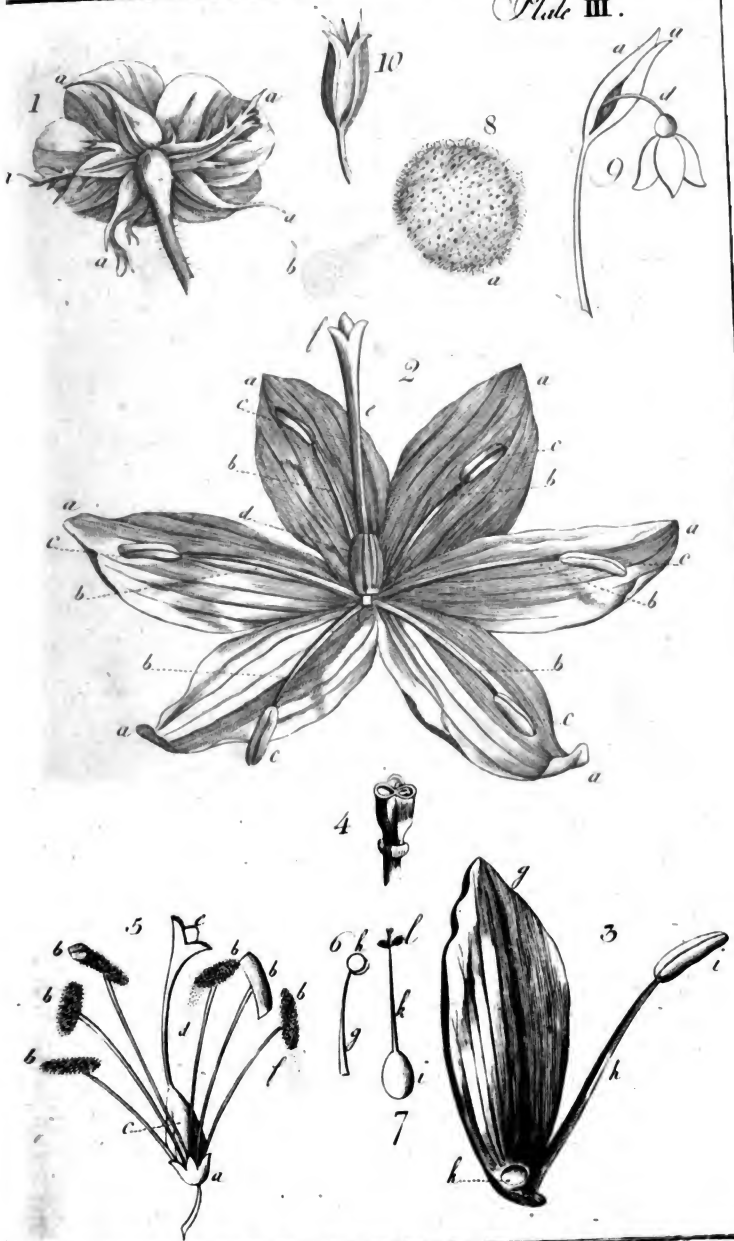
FIG. 7. *i. k. l.* A Pointal taken out of a flower. *i.* The Seed-bud. *k.* The Shaft. *l.* The Summit.

FIG. 8. *a.* A Particle of Dust greatly magnified. *b.* The vapour escaping from it, which is supposed to pass through the Pointal to fertilize the Seed bud.

FIG. 9. A Daffodil and its sheathing Empalement. *a. a.* the Sheath. *d.* The sheathed fruit-stalk.

FIG. 10. A Cup which is the Empalement of a Poly-anthus, with five sharp teeth in the rim.

Plate III.



B L O S S O M S.

- FIG. 1. A Blossom of one Petal, salver-shaped.
a. The Tube. *b. b.* The Border.
- FIG. 2. A bell-shaped Blossom.
- FIG. 3. A tubular bell-shaped Blossom.
- FIG. 4. A Blossom bell-shaped but distended.
- FIG. 5. A Blossom with six reflexed Segments.
- FIG. 6. A back view of a wheel-shaped Blossom, to shew the shortness of the Tube.
- FIG. 7. A funnel-shaped Blossom. *a.* The Tube. *b.* The Border. *c.* The Cup.
- FIG. 8. 9. Gaping Blossoms.
a. a. The upper Lip.
b. b. The lower Lip.
c. c. The Tube.
d. d. The Mouth.
- FIG. 10. A gaping Blossom. *a.* The upper Lip. *b.* the lower Lip. *c.* The Palate.
- FIG. 11. A cross-shaped Blossom with the Cup taken away, to shew *a. a.* the Claws of the Petals. *b. b. b. b.* The Limbs of the Petals. *c.* The Receptacle.
- FIG. 12. A cross-shaped Blossom with the Empalement or Cup. *a. a. a. a.* The Petals. *b.* The Cup, hunched at the Base.
- FIG. 13, 14. Two views of butterfly-shaped Blossoms.
a. a. The Cups. *b. b.* The Standards. *c. c.* The Wings. *d.* The Keel.
- FIG. 15. The Standard of a butterfly-shaped Blossom separated from the other Petals. *c.* The Claw.
- FIG. 16. One of the Wings of a butterfly-shaped Blossom separated from the other Petals. *m.* The Claw.
- FIG. 17. The Keel, or lowermost petal of a butterfly-shaped Blossom separated from the other Petals.

- FIG. 18. The Cup, Chives and Pointal of a butterfly-shaped Blossom after the Petals are taken away.
a. The Cup, *h.* The Chives. *i.* the Pointal.

C O M P O U N D F L O W E R S.

- FIG. 19. A Flower of DANDELION, as an example of a compound Flower in which all the Florets are strap-shaped.

- FIG. 20. The common Empalement of a compound Flower, composed of upright Scales *dd*; and reflected Scales *cc*.

- FIG. 21. A strap-shaped Floret taken out of a compound Flower, *e.* the Blossom, *f.* the Seed-bud, *g.* the Tips forming a hollow Cylinder, through which passes the Pointal, with the two reflected Summits. *h.*

- FIG. 22. *k.* the Seed of a compound Flower. *i.* the Pillar supporting the downy Feather *l.*

- FIG. 23. A naked, dotted Receptacle of a compound Flower. *a.* the Receptacle. *b.* the Empalement reflected.

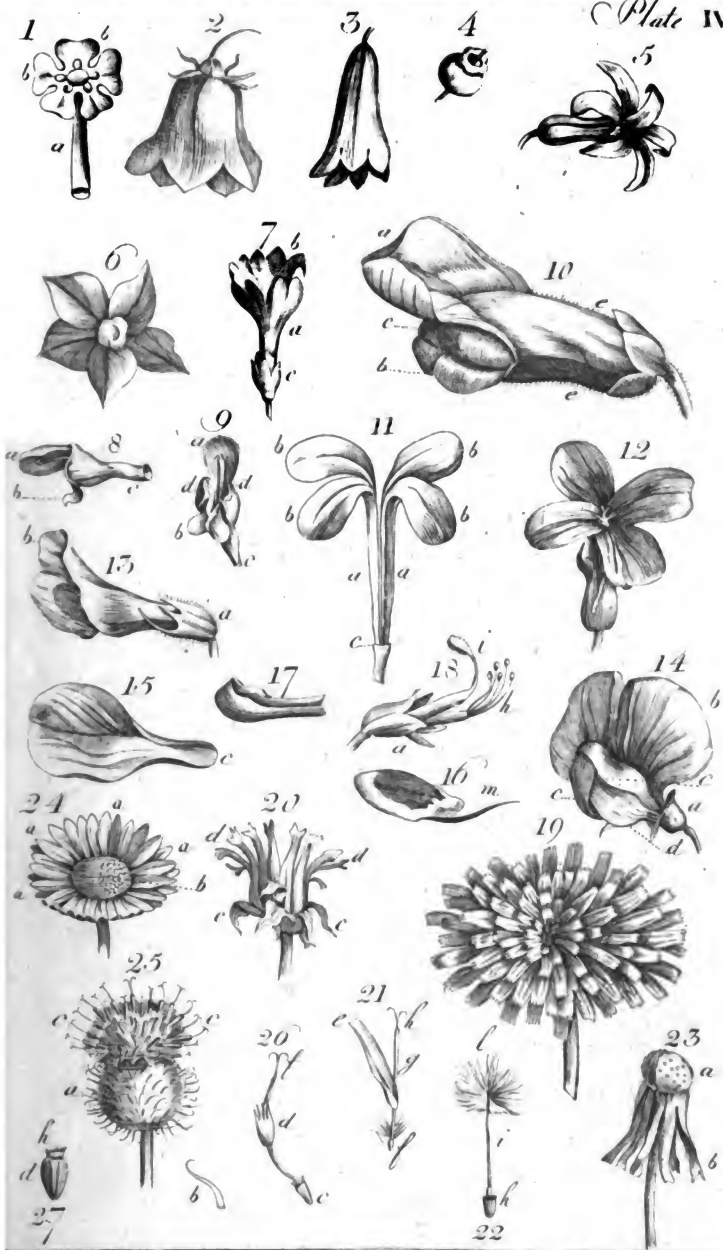
- FIG. 24. The Flower of a DAISIE, as an example of a Radiate compound Flower, *a. a. a. a.* the strap-shaped Florets in the Circumference, *b.* the tubular Florets in the Center.

- FIG. 25. The Flower of Burdock, as an example of a compound Flower in which all the Florets are tubular. *a.* the scaly tiled Empalement. *b.* one of the scales with its hooked Point. *c. c.* the tubular Florets.

- FIG. 26. One of the tubular Florets separated from the rest. *d.* the Blossom. *e.* the Seed-bud. *f.* the Pointal.

- FIG. 27. One of the seeds. *d.* the pyramidal seed, crowned by the short Feather *h.*

PLATE



H O N E Y C U P S.

- FIG. 1. The Blossom of a Daffodil, with the bell-shaped Honeycup, *a*.
- FIG. 2. The Blossom of the Parnassus to shew the Honeycups *a. a. a. a. a.* which are little Globes supported upon Pillars, thirteen in each place.
- FIG. 3. *a. a.* The Horned Honeycups of the Wolfsbane. *b. b.* the Foot-stalks that support them.
- FIG. 4. *a.* The horn-shaped Honeycup of the Larkspur. *b. c. d. e. f.* the Petals.

S E E D - V E S S E L S.

- FIG. 5. *c. c.* The globular Capsule of a Poppy. *a. a.* the holes through which the Seeds escape. *b.* the radiate Summit.
- FIG. 6. A Capsule with three Valves, opening at the top. *a. a. a.* the Valves.
- FIG. 7. A Capsule cut open length-ways, to shew the the Receptacle, with the Seeds fixed to it.
- FIG. 8. A Capsule opening by holes at the sides. *a. a.* holes through which the Seeds escape.
- FIG. 9. A Capsule that opens like a snuff box, or as if it was cut round. *a.* the Capsule entire. *b.* the Capsule open. *c.* the Receptacle as it appears after the Seeds are removed.
- FIG. 10. An inversely heart-shaped Pouch, notched at the end.
- FIG. 11. A circular Pouch notched at the end.
- FIG. 12. A Pouch opened a little to shew *a. a.* the Valves. *b. b.* the Partition betwixt the Valves.
- FIG. 13. A Capsule with two boat-shaped Valves, and one cell. *a. a.* the Valves opening length-ways.

FIG. 4.

- FIG. 14. A Capsule cut open horizontally to shew *c.c.c.c.* the Valves. *b. b. b. b.* the Partitions. *d.* the Column in the Center to which the Partitions are connected. *a.a.a.a.* the Receptacles and Seeds.
- FIG. 15. Seeds of Geranium, with a long Bill. *l.* the Seeds. *a.* the Bill.
- FIG. 16. A Shell, or Seed-vessel of two Valves, in which the Seeds are fixed to the upper Seam only. *a. b.* the Valves.
- FIG. 17. A Pod, or Seed-vessel of two Valves, in which the Seeds are fixed to the two Seams alternately. *a. b.* the Valves. *d. d. d. d. c. c. c.* the Seeds.
- FIG. 18. A Cone, cut through length-ways, to shew the Scales and the Seeds.
- FIG. 19. A Berry cut across to shew *a. a.* the Seeds. *b. b.* the Pulp. *c. c.* the Coat.
- FIG. 20. A fleshy Capsule, or Apple cut across to shew *b. b. b. b. b.* the five Cells.
- FIG. 21. A pulpy Seed-vessel cut across. *a. a.* the pulpy part. *b. b.* the Nut or Stone.

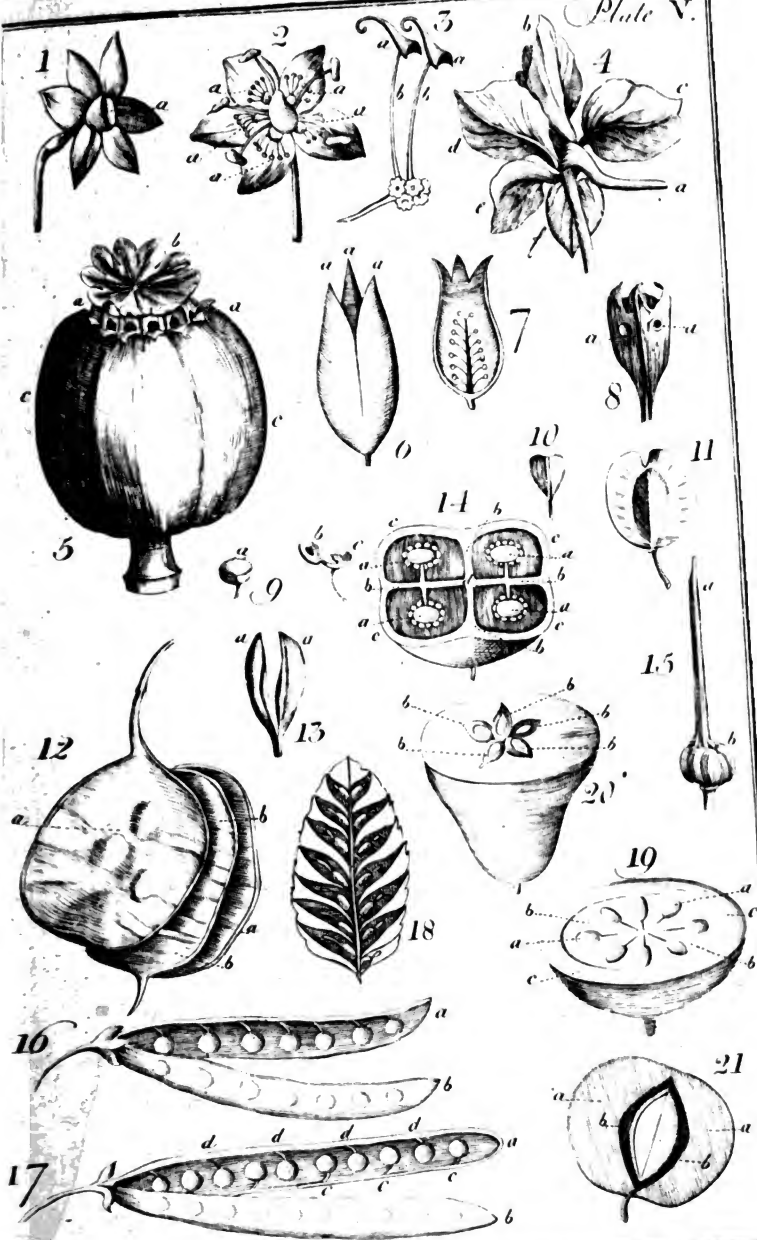


FIG. 1. The Seed-vessel of the Spindle to shew the seed-coat.. *a. a.* The Valves of the Capsule. *b.* a Seed. *c. c.* the Seed-coat opened to shew the Seed.

FIG. 2. A Seed with its Feather.

a. A hairy feather. *b.* a downy Feather.

d. The pillar supporting the Feather. *c.* the Seed.

FIG. 3. The Seed of a Bean split in two, after being soaked a little while in water.

a. a. The Seed-lobes.

b. The Heart.

c. The descending part of the Heart.

d. The ascending part of the Heart.

e. The Eye.

F R U I T S T A L K S.

FIG. 4. A Stalk. It supports the Flowers, and springs directly from the Root.

FIG. 5. A Spike. *a. b. c. d.* the little Spikes.

FIG. 6. A Panicle.

FIG. 7. A broad topped Spike. *a. a. a. a. a. a.* the little Fruit-stalks.

FIG. 8. A Bunch.

FIG. 9. A Rundle. *b. b. b. b.* Rundlets, *c. c.* the General Fence. *d. d. d. d.* the Partial Fence. *e. e. e. e.* The Spokes of the Rundle.

Fig. 10. A Tuft.

FIG. 11. Whorls of Flowers. *a. a. a.* the Whorls.

FIG. 12. A Catkin.

LEAVES



AUTHORS *and* EDITIONS *referred to.*

<i>Baub pin.</i>	Caspari Baubini Pinax. Basil 1671, quarto.
<i>Gerard.</i>	Johnson's Gerard. Fol. London 1633.
<i>Park.</i>	Parkinson's Theatrum Botanicum. London- 1640. Folio.
<i>Ray's Syn.</i>	Joannis Raii Synopsis methodica stirpium Britannicarum. Ed. 3d. London 1724. 8vo. Ed. 1st. 1690. 2d 1696.
<i>Ray's Hist. Plant.</i>	Joannis Raii Historia plantarum. 3 vol. fol. London, 1686.
<i>Dillenius.</i>	Joannis Jacobi Dillenbergii Historia muscorum, 4to. Oxon. 1741.
<i>Hudson's Flor. Angl.</i>	Gulielmi Hudsoni Flora Anglica. 8vo. Lon- don, 1762.
<i>Cat. Cant.</i>	Thomæ Martyn Catalogus horti botanici Can- tabrigiensis 8vo 1771.
<i>Flor. Suec.</i>	Caroli Linnæi Flora Suecica. 8vo. Stock- holmia, 1755.
<i>Iter Oeland.</i>	<i>Ibid.</i> Iter Oelandicum et Gotlandicum. 8vo Stockholmia 1745.
<i>Iter Scan.</i>	<i>Ibid.</i> Iter Scanicum. Stockholmia, 1751. 8vo.
<i>Iter Westrog.</i>	<i>Ibid.</i> Iter Westrogothicum, Stockholmia, 1745 8vo.
<i>Flor. Lapp.</i>	<i>Ibid.</i> Flora Lapponica. Amstelodam. 8vo 1736.
<i>Gen. Plant.</i>	<i>Ibid.</i> Genera Plantarum. 8vo Holmia, 1764.
<i>Sp. Pl.</i>	<i>Ibid.</i> Species Plantarum. 2 vol. 8vo Vindo- bonæ, 1764.
<i>Syst. Nat.</i>	<i>Ibid.</i> Systema Naturæ. 8vo Holmia, 1767.
<i>Mantiss. Plant.</i>	<i>Ibid.</i> Mantissa Plantarum. 8vo Vindobonæ, 1770.
<i>Philos. Transf.</i>	Philosophical Transactions.
<i>Gent. Mag.</i>	Gentleman's Magazine.

LEAVES.

L E A V E S.

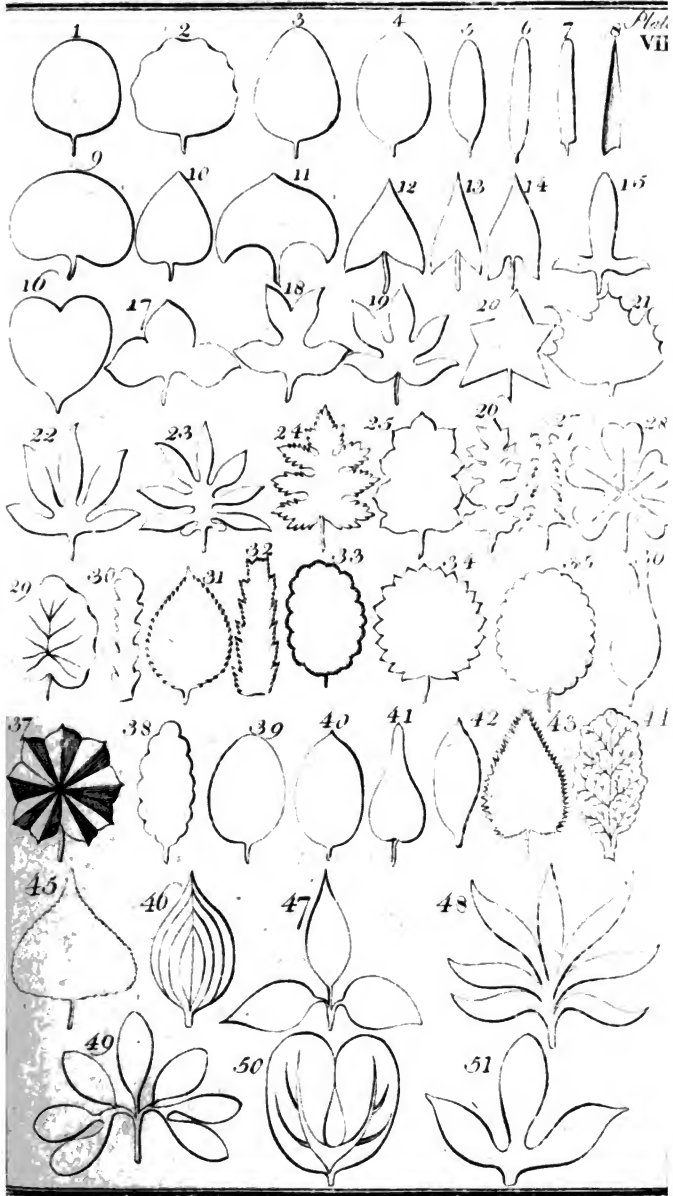
FIG.

- 1 Round.
- 2 Circular.
- 3 Egg-shaped.
- 4 Oval.
- 5 Oblong.
- 6 Spear-shaped.
- 7 Strap-shaped.
- 8 Awl shaped.
- 9 Kidney-shaped.
- 10 Heart-shaped.
- 11 Crescent-shaped.
- 12 Triangular.
- 13 Arrow-shaped.
- 14 Betwixt heart and arrow shaped.
- 15 Halberd-shaped.
- 16 Notched at the end.
- 17 Consisting of 3 Lobes.
- 18 Bitten.
- 19 Gashed.
- 20 With five angles.
- 21 Gnawed.
- 22 Hand shaped.
- 23 With winged Clefts.
- 24 Jagged.
- 25 Indented.
- 26 Toothed and indented.

FIG.

- 27 Barbed.
- 28 Divided.
- 29 Serpentine at the edge.
- 30 Toothed.
- 31 Serrated.
- 32 Doubly-serrated.
- 33 Doubly scolloped.
- 34 Sharply scolloped.
- 35 Bluntly scolloped.
- 36 Sharply notched at the end.
- 37 Plaited.
- 38 Scolloped.
- 39 Blunt.
- 40 Sharp.
- 41 Tapering to a point.
- 42 Blunt but ending in a point.
- 43 Fringed.
- 44 Venous, or full of veins.
- 45 Triangularly spear shaped.
- 46 Stringy.
- 47 Growing by threes upon leaf-stalks.
- 48 Fingered.
- 49 Shaped like a bird's-foot.
- 50 In pairs.
- 51 Three-fold.

LEAVES



E R R O R S of the Preface

Page 32, line 5, for *constitutes*, read *constitute*.

From page 36, to p. 69, add one to each number prefixed to the English Generic name.

Page 40, line 4, for *Phaloris*, read *Phalaris*.

- - - 50, in the side notes, for the upper *annua*, r. *annual*.

- - - 67, at the bottom for *DOGSTAL*, r. *DOGSTAIL*.

- - - 70, line 6, for 42 r. * 42.

- - - 74, line 32, for *radicea*, r. *radice*.

- - - 81, the last line, for *Spinx*, r. *Sphinx*.

- - - 94, at the top, for **THREE CHIVES**, r. **FIVE CHIVES**.

- - - 99, line 4, for **HARESPONG**, r. **HARESTRONG**.

- - - 180, line 17, for *puffinaca*, r. *passinaca*.

- - - 188, after the bottom line, add *Honeycups*.

- - - 193, at the top, for **TWO POINTALS**, read **FIVE POINTALS**.

- - - 196, for 159 **HYACINTH** r. 149 **HYACINTH**

- - - 197, the lowermost line but one, for **WATER PLANTAIN**, r. **THRUMWORT**.

- - - 236, line 40, for *Pylgonum* r. *Polygonum*.

- - - 297, line 36, for *Barbara*, r. *Barba*.

- - - 340, line 2, for *Glecoma*, r. *Glechoma*.

- - - 388, No. 275, for **CALEAGE**, r. **CABBAGE**.

- - - 474, line 17, for *titled*, r. *tiled*

- - - 539, line 7, for *unsual*, r. *unusual*.

- - - 702, line 19, for *anthocerris* r. *anthoceros*.

- - - 712, in the side notes, for *orbicularus*, r. *orbicularis*.

L E A V E S.

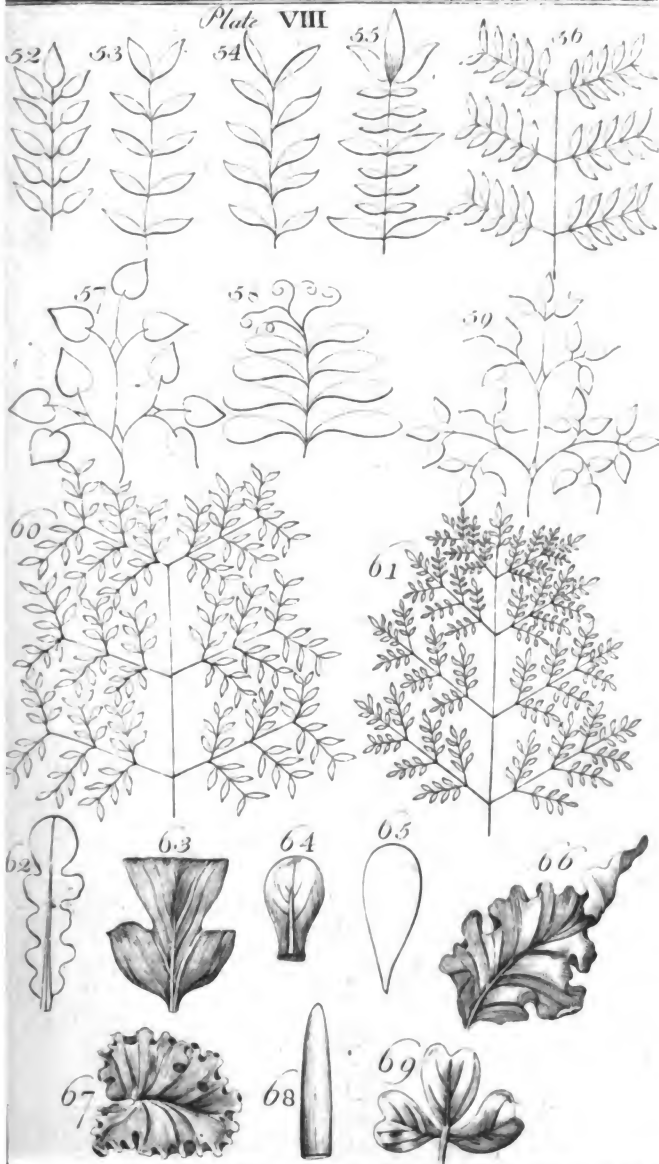
FIG.

- 52 Winged, with an odd little leaf at the end.
 53 Abruptly winged.
 54 Winged with the little leaves alternate.
 55 Interruptedly winged.
 56 Doubly winged.
 57 Doubly three-fold.
 58 Winged and terminated by a tendril.
 59 Triply threefold.
 60 Triply winged, without an odd little leaf at the end.

FIG.

- 61 Triply winged, with an odd little leaf at the end.
 62 Lyre-shaped.
 63 Lopped at the end.
 64 Spatula shaped.
 65 Wedge-shaped.
 66 Waved at the edge.
 67 Curled.
 68 Cylindrical.
 69 Inversely heart shaped.

Plate VIII



Disposition and Direction of Leaves.

FIG. 1. Leaves in cross-pairs.

FIG. 2. Tiled Leaves.

FIG. 3. *a.* a jointed Leaf.

b. b. Starry Leaves.

c. c. Leaves growing by fours.

d. d. d. d. Leaves alternate. In fig. 5. all the Leaves are opposite.

e. Chaffy Leaves.

f. Leaves in a bundle.

FIG. 4. *a.* A Leaf with a central Leaf-stalk.

b. A Leaf with its Leaf-stalk. *c.*

d. A sitting Leaf.

e. A Leaf running along the Stem.

f. A leaf embracing the Stem.

g. A perforated Leaf.

h. h. Twin Leaves.

i. A leaf sheathing the Stem.

FIG. 5. *a. a.* Leaves bent inwards.

b. b. Leaves upright.

c. c. Leaves expanding.

d. d. Leaves horizontal.

e. e. Leaves curved.

f. f. Leaves rolled back.

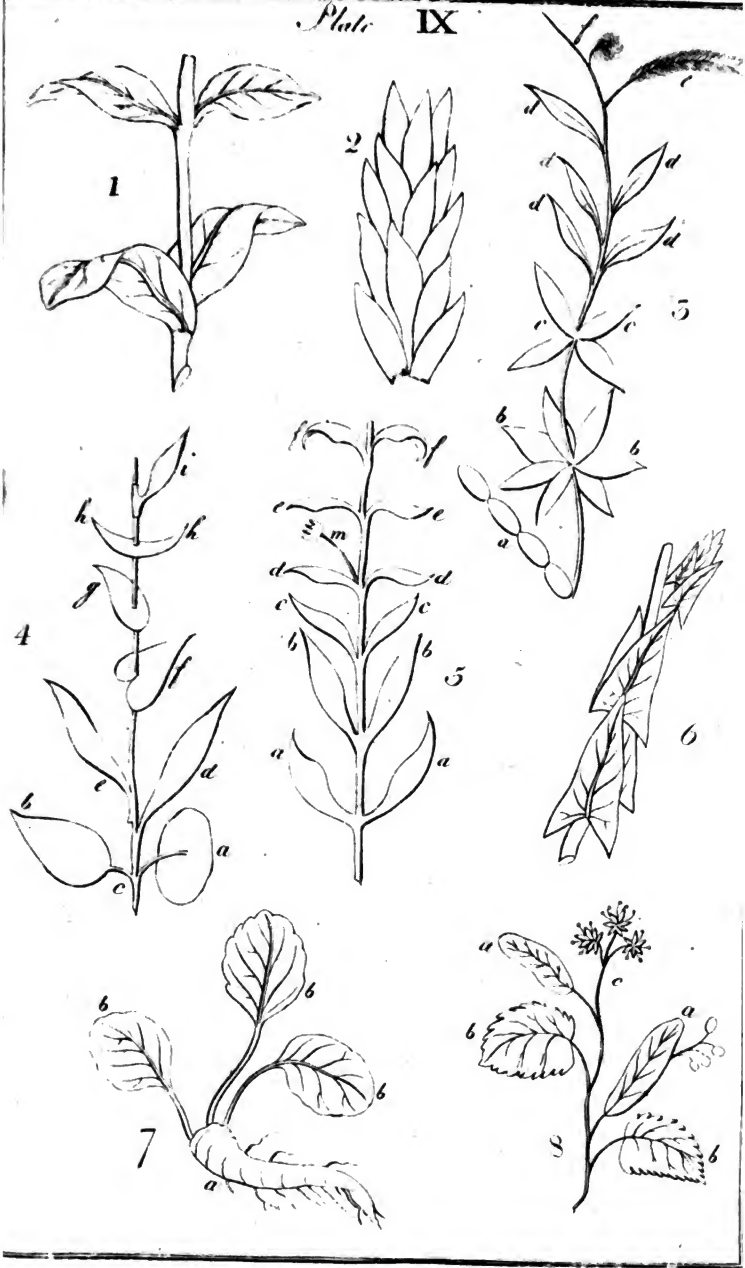
m A Fruit-stalk rising from the base of the Leaf.

FIG. 6. Leaves contiguous to the Stem.

FIG. 7. Root-leaves. *a.* the root. *b. b. b.* the leaves rising immediately out of it, without the intervention of any Stem.

FIG. 8. *a. a.* Floral Leaves, different from the other Leaves of the plant, *b. b.* A Fruit stalk. *c.*

Plate IX



P L A T E X.

W E A P O N S.

FIG. 1. *a. a. a. a.* Simple thorns.

b. b. b. A triple thorn.

FIG. 2. *a. a.* Simple Prickles.

b. b. Forked or triple Prickles.

S T E M S, &c.

FIG. 3. A jointed Straw. (*a. a. a.*) The Joints.

FIG. 4. A forked Stem.

FIG. 5. A twining Stem.

FIG. 6. *a. a.* A Tendril.

b. b. Props.

c. c. Concave Glands.

FIG. 7. A creeping Root.

FIG. 8. A creeping Stem.

Plate X

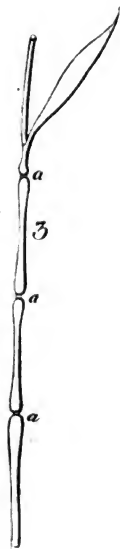
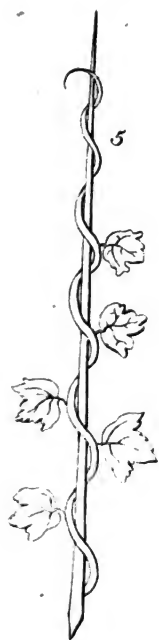
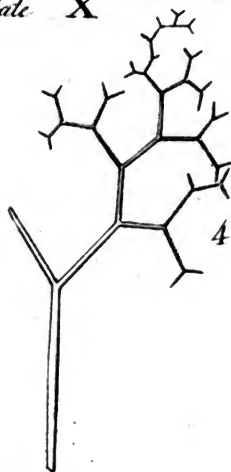
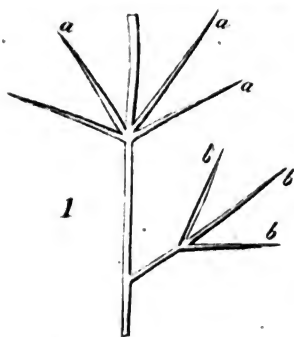


FIG. 1. *a. a. a. a.* Glands supported upon Foot-stalks.

R O O T S.

FIG. 2. A coated bulbous Root, cut a-croſs to ſhew the Coats which compoſe it.

FIG. 3. A ſolid bulbous Root.

FIG. 4. A ſcaly bulbous Root.

FIG. 5. A branching Root.

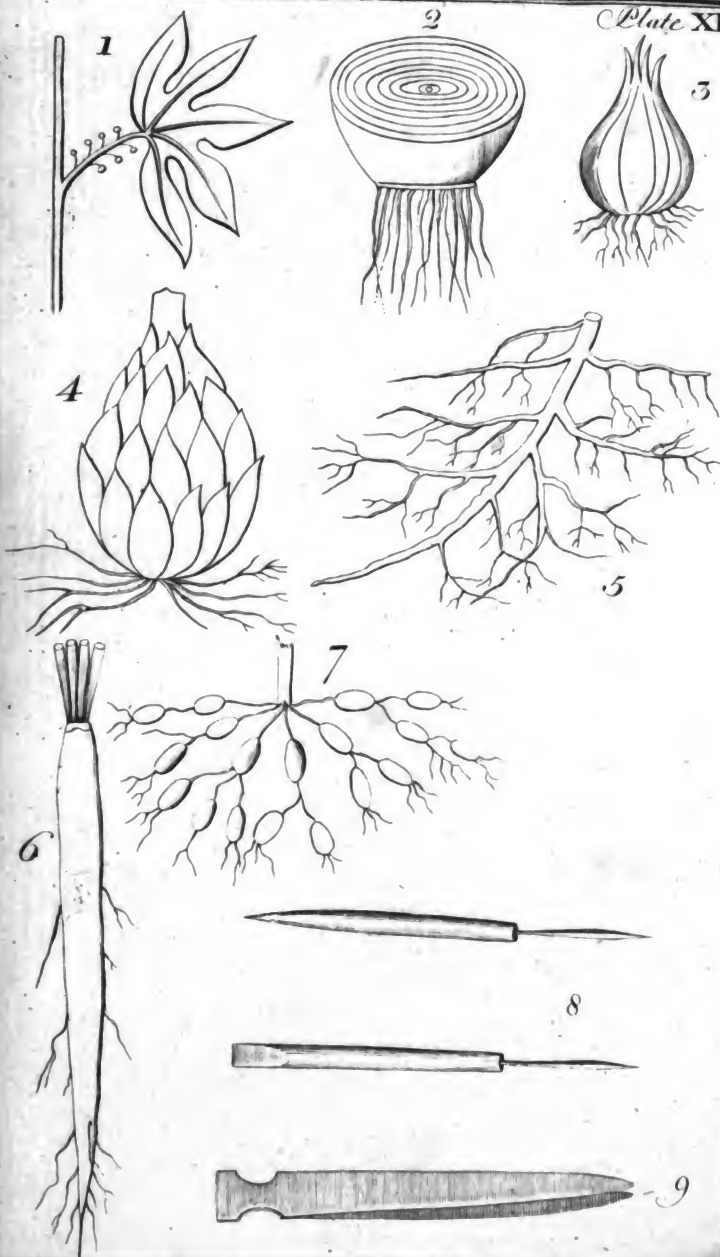
FIG. 6. A ſpindle-shaped Root.

FIG. 7. A tuberous Root.

I N S T R U M E N T S.

FIG. 8. Two Diſſecting Needles, with ivory handles, belonging to the Botanical Microſcope.

FIG. 9. A pair of Spring Plyers for diſſection, belonging to the Botanical Microſcope.



VEGETABLE CABINET.

A Section of a Cabinet for the preservation of dried specimens of plants. The numbers denote the drawers appropriated to the different Classes. The size of the drawers, is proportioned to the number of plants in each Class. They are calculated to contain specimens of all the British Vegetables.

BOTANICAL MICROSCOPE.

FIG. 2. The Botanical Microscope. *a. a.* The stage, upon which the objects to be viewed and dissected are placed. *b. b. c. c.* Circular brass cells, containing lenses of different magnifying powers. These lenses slide higher or lower, to adapt the focus to distinct vision. Either of the lenses may be taken out occasionally and held in the hand. In the stage *a. a.* are the holes to contain the instruments figured in the preceding plate. The best way to use the microscope is to set it upon a table, of such a height that the eye can be applied with ease, almost close to the lens. The elbows resting upon the table, the two hands will be steady, and at liberty to use the dissecting instruments. The Microscope stands upon either end, according as you want to use the greater or the lesser magnifying power.

F I N I S.

DIRECTIONS to the BOOK-BINDER.

Pl. I. To front title Vol. I.	Pl. VII. To front	— 828
II. To front page	VIII. —	— 830
Pl. III. Vol. II.	IX. —	— 832
IV. —	X. —	— 834
V. —	XI. —	— 836
VI. —	XII. —	— 838

Vid. Brookes complete British Gardener, 1780-2.
& Tho. Ellis's Gardener's Pocket Calendar, 1776-2/6
& Foster's nova genera plantarum, 1776 — £1..4
& John Miller's Illustration of the Sexual System, 1777-21.
& Weston's universal Botanist & Nurseryman, 1770.
vid. Mason's Lady's & Gentleman's Botanical
Pocket-Book, adapted to Withering's
arrangement. — 8vo 4s 1800

1871

1871



